

VOLUME I
PERFORMANCE FLIGHT TESTING

APPENDIX C-1
PITOT-STATIC POSITION
ERROR RELATIONS

DTIC QUALITY INSPECTED 4

19970116 077

USAF TEST PILOT SCHOOL
EDWARDS AFB, CA

DISTRIBUTION STATEMENT A

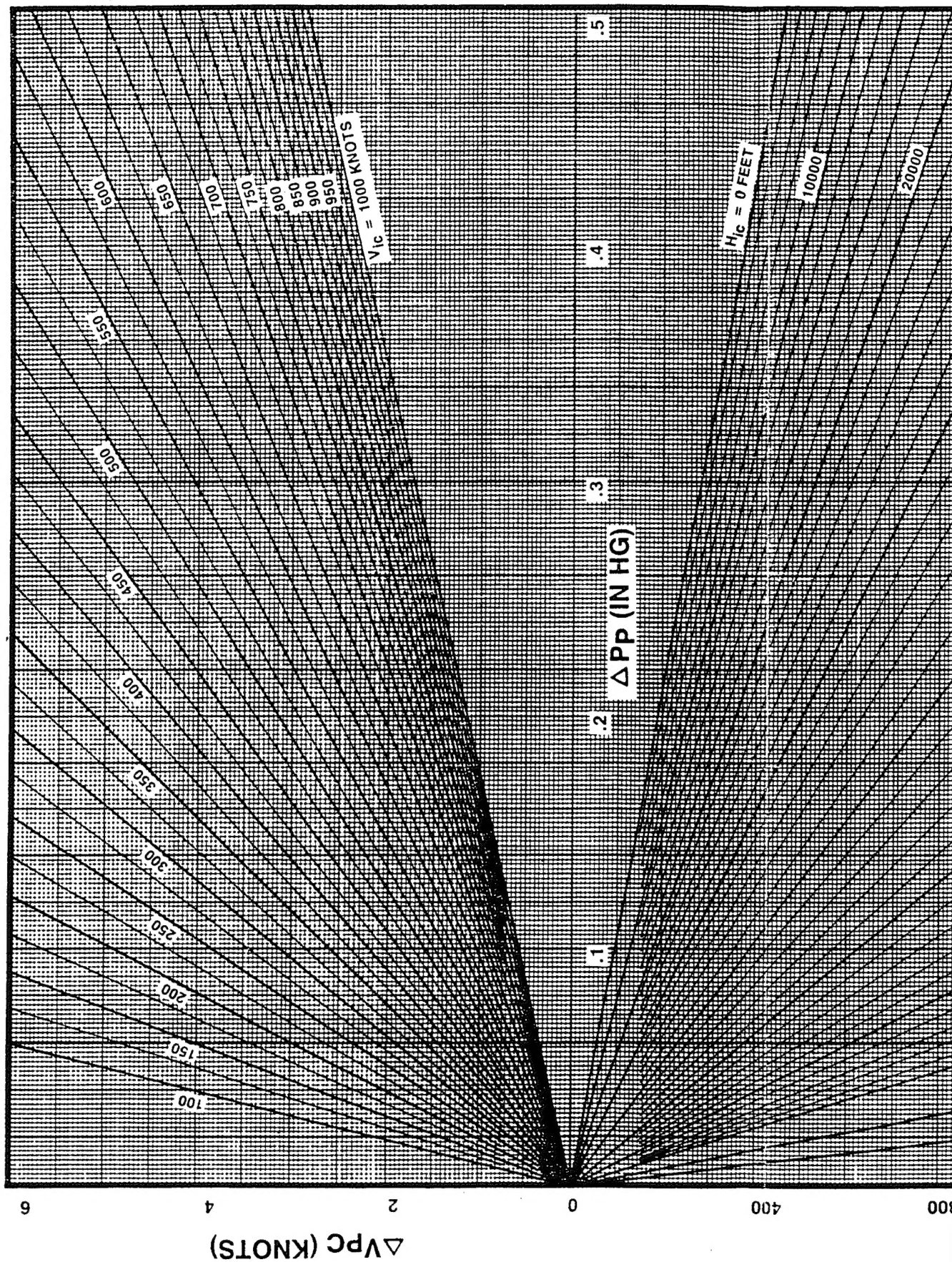
Approved for public release;
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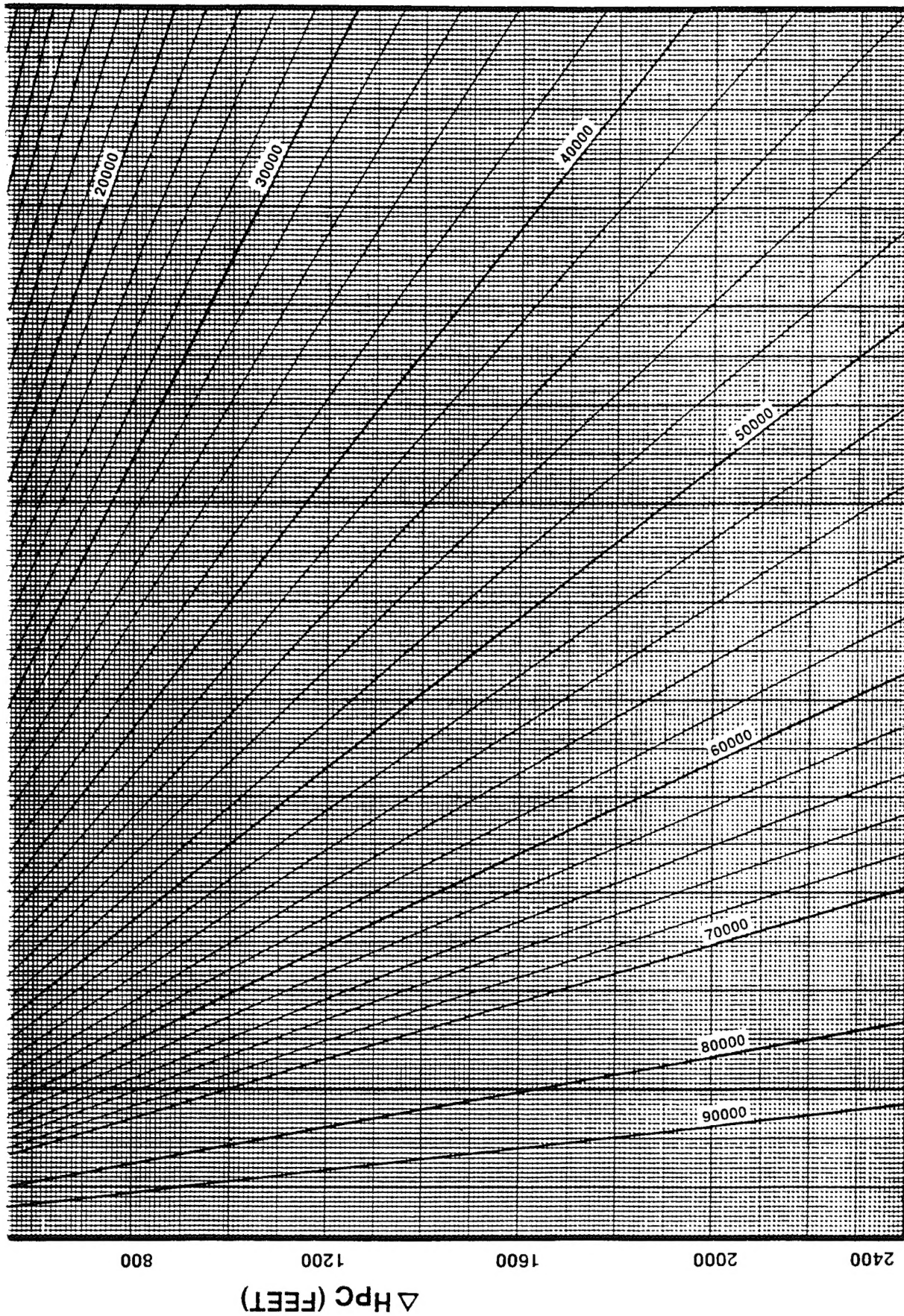
APPENDIX C-1

PITOT-STATIC POSITION ERROR RELATIONS

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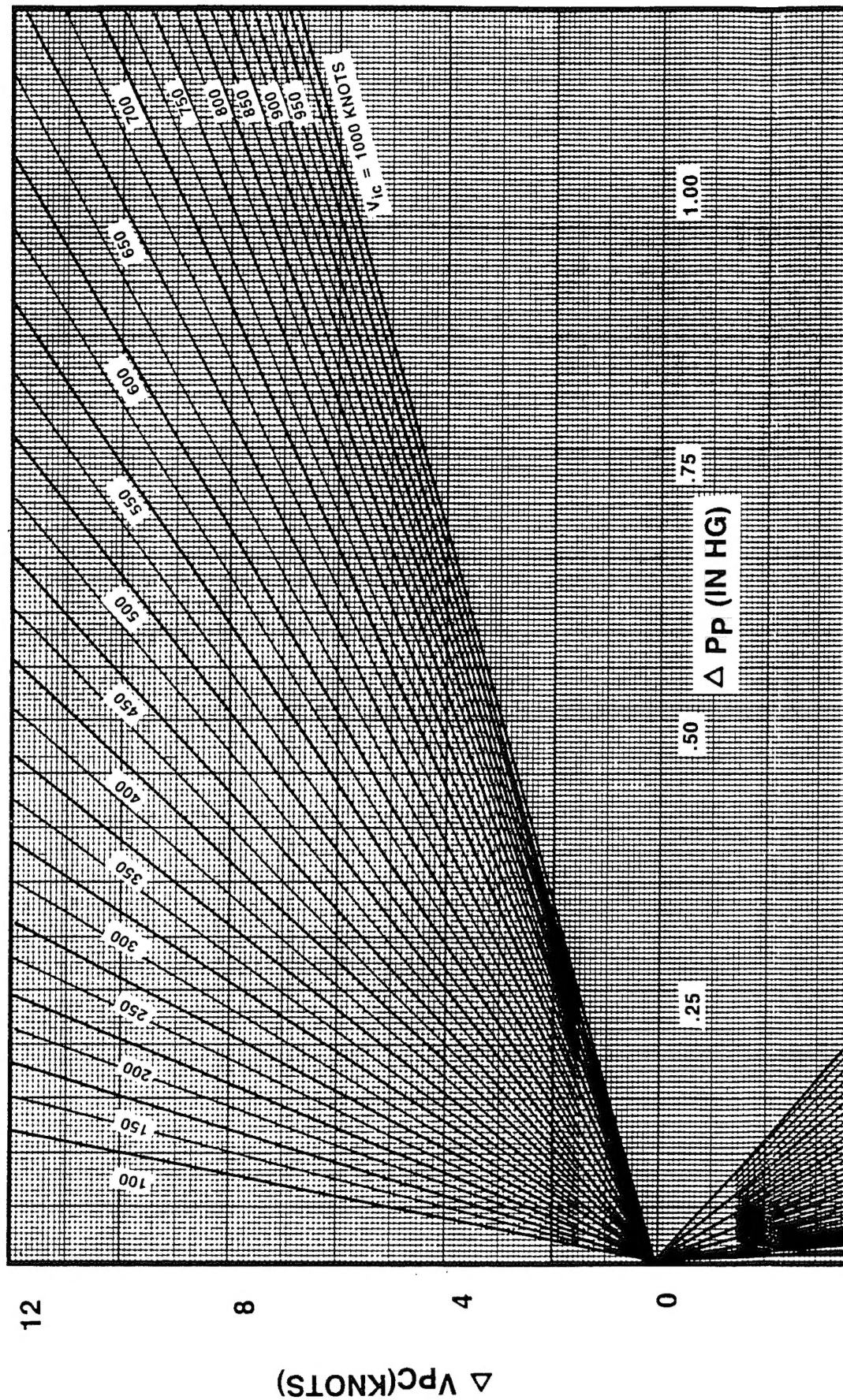
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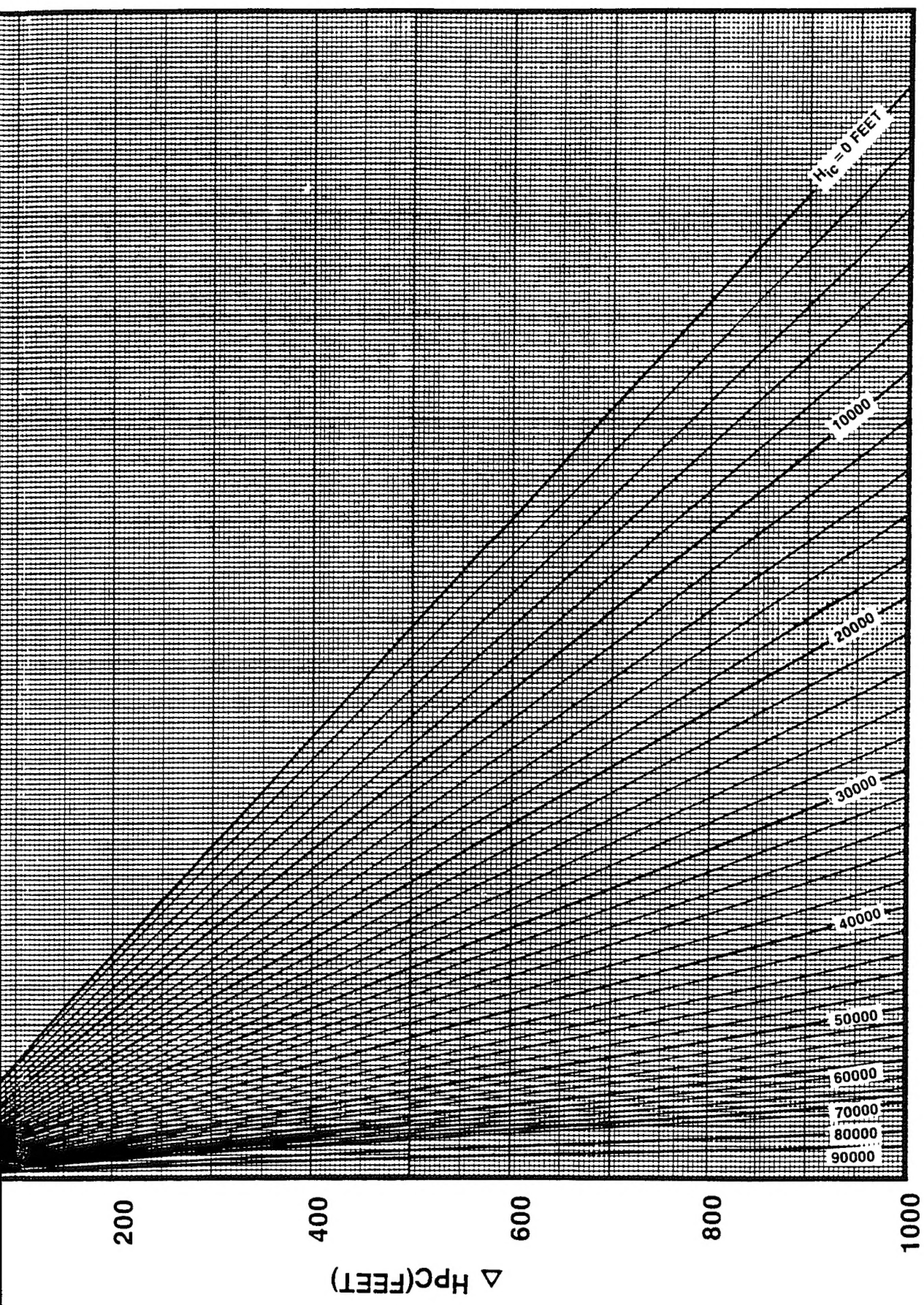


ΔVPC, ΔHPC vs ΔPP

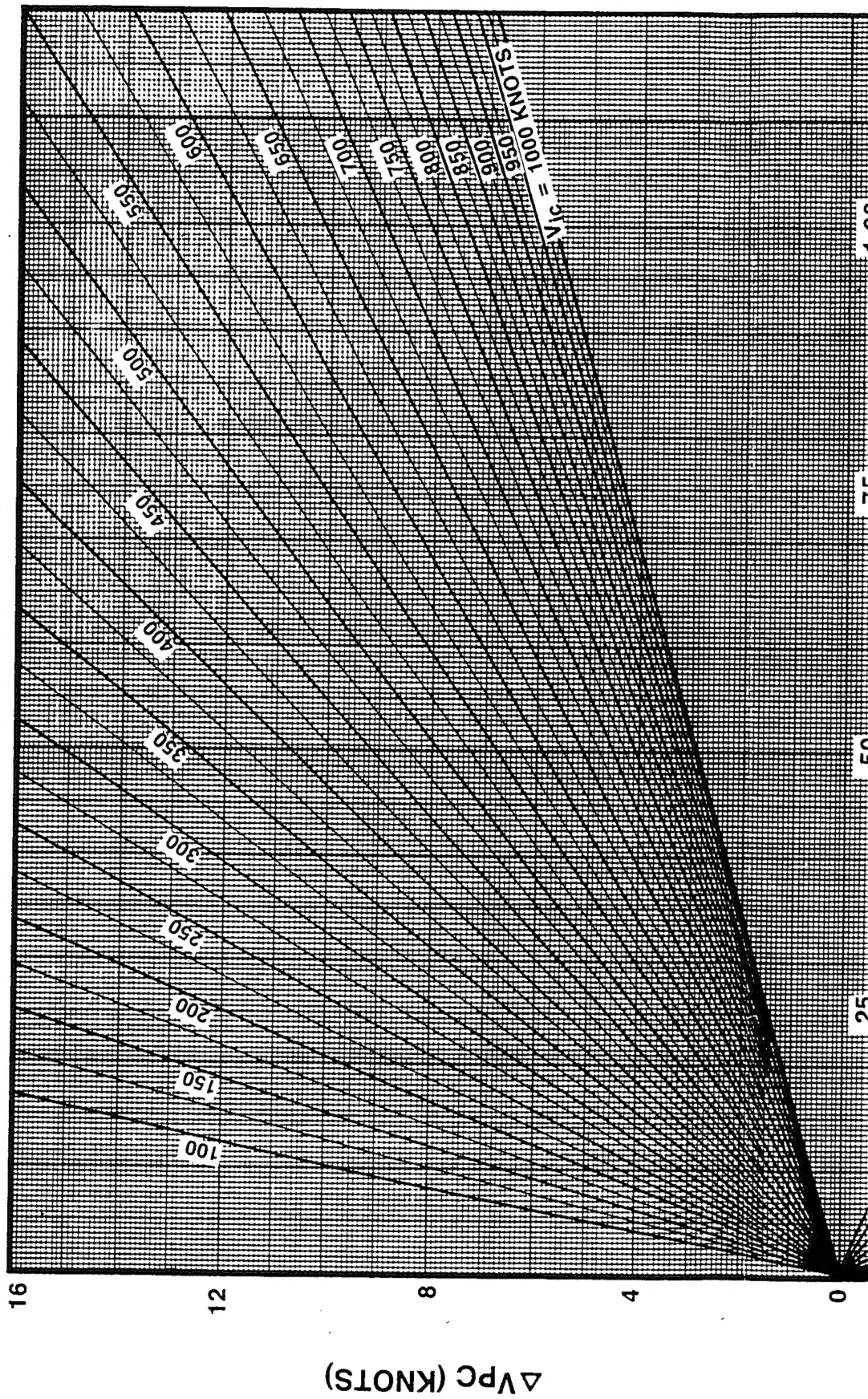
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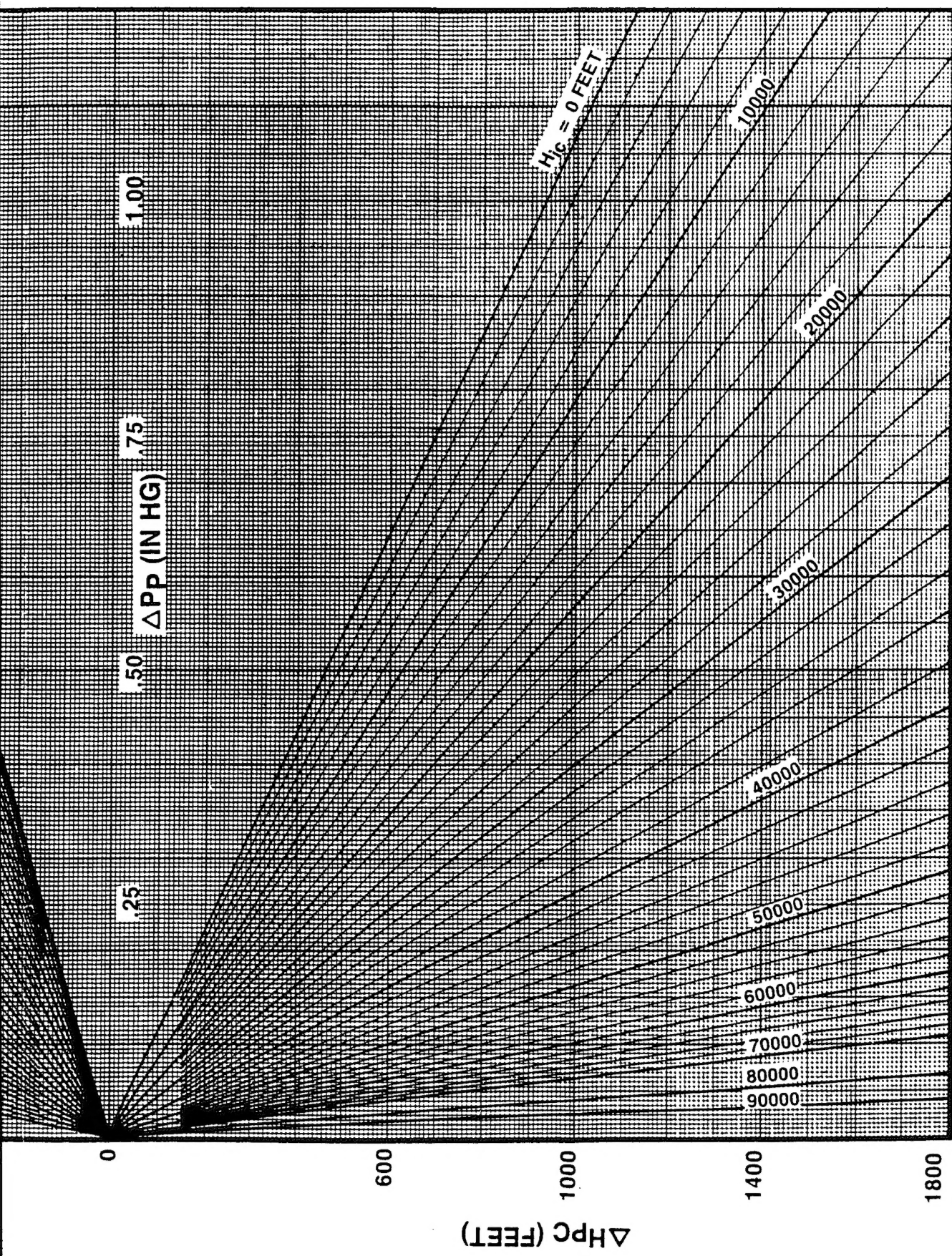


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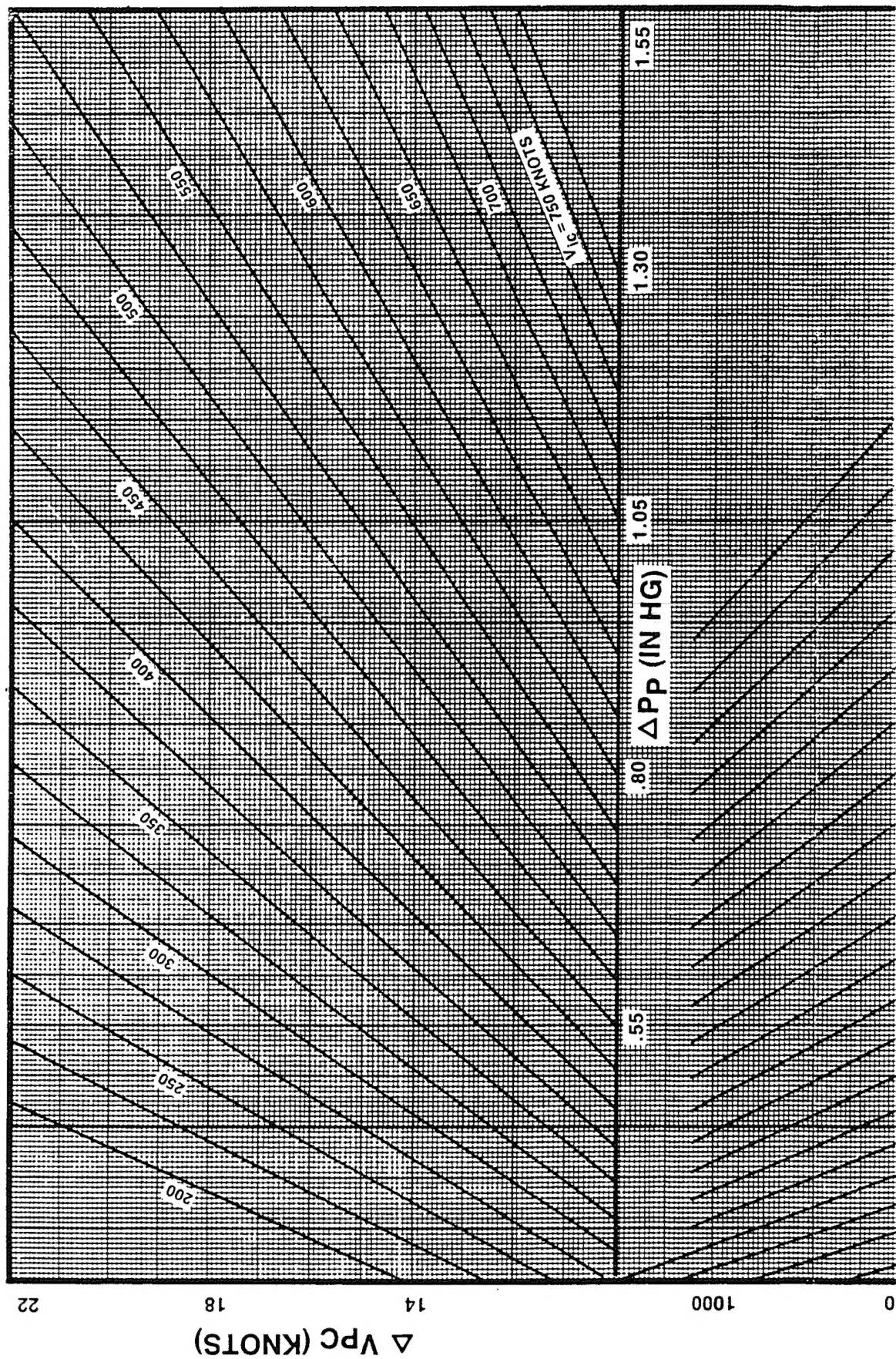


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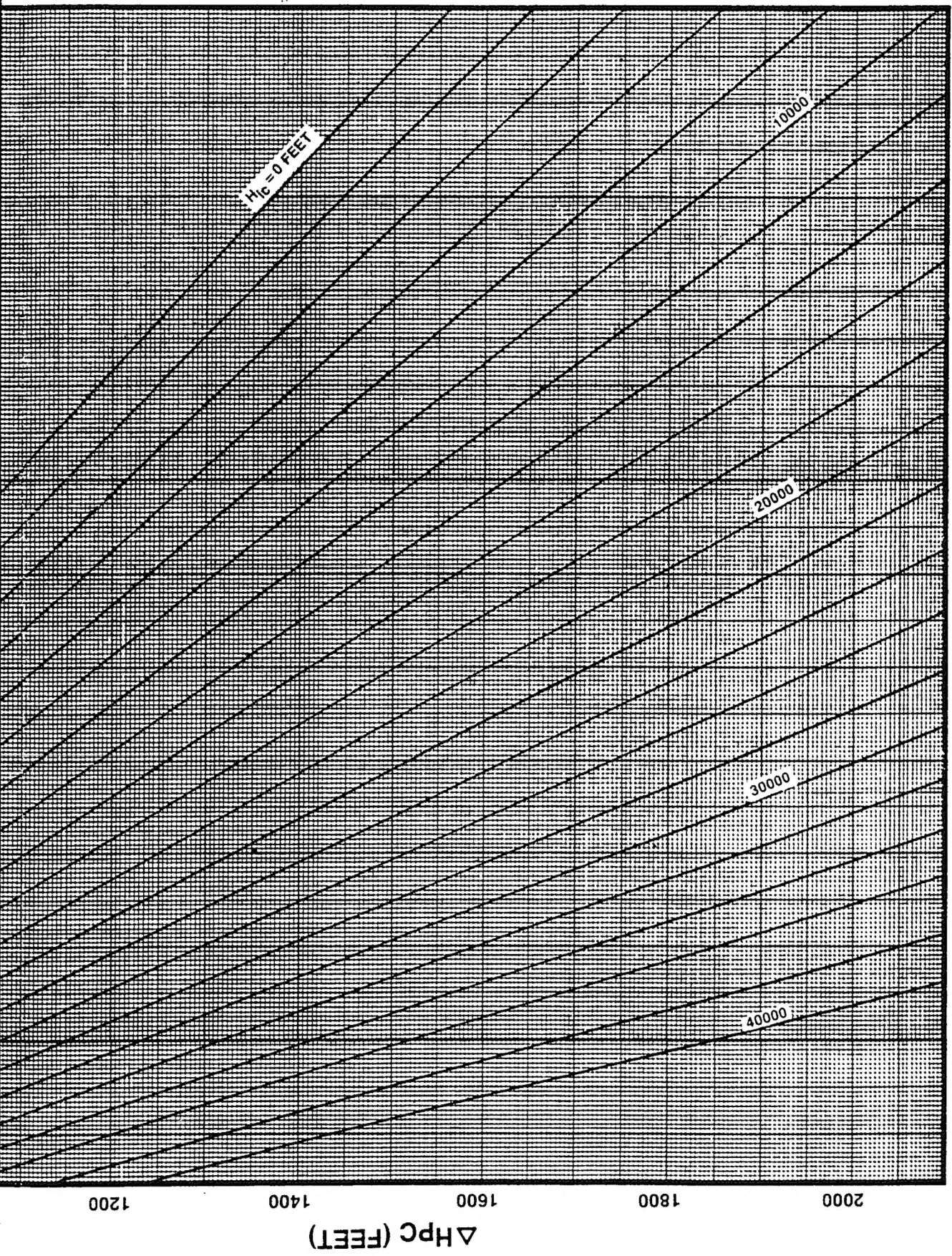


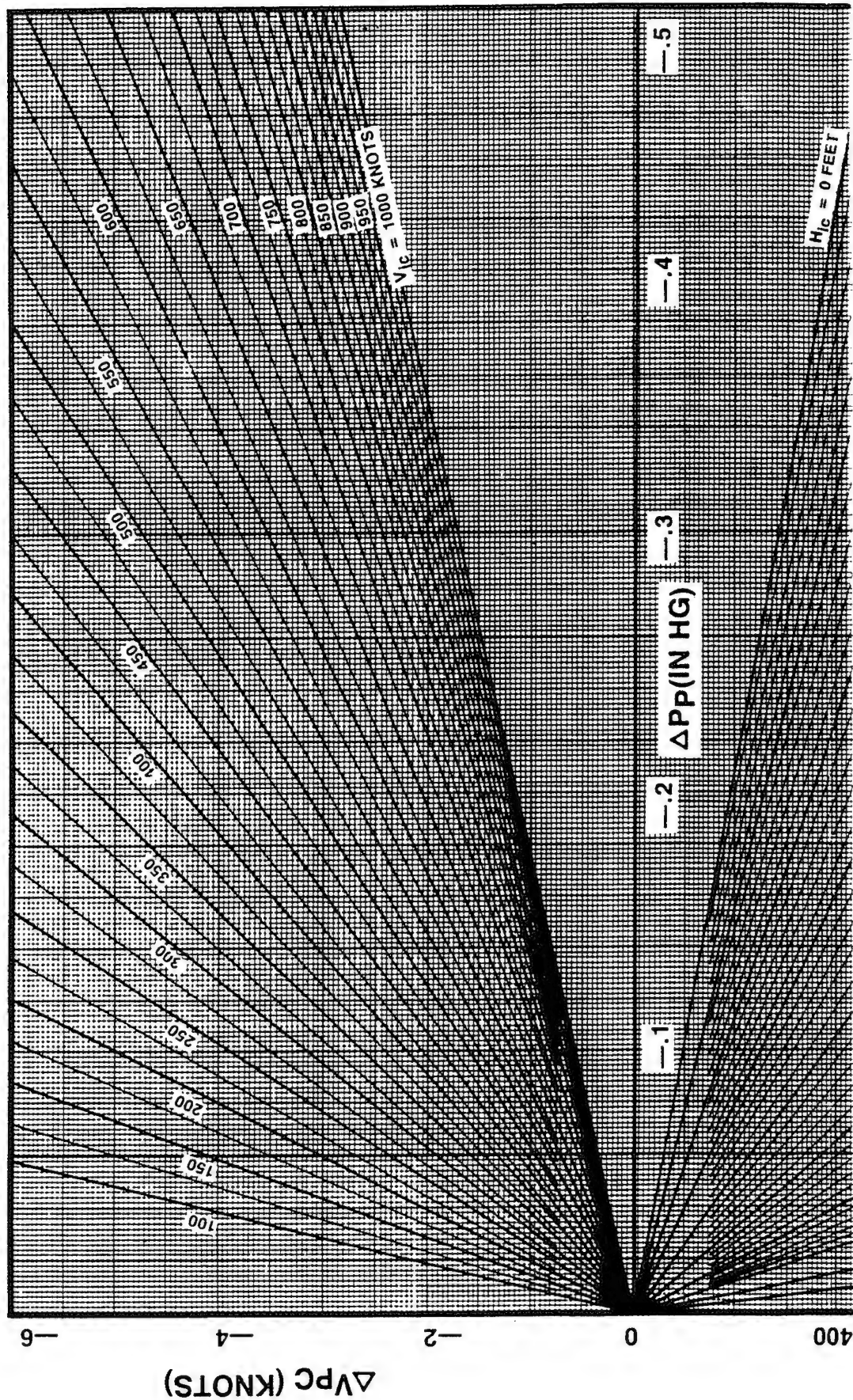
$\Delta VPC, \Delta HPC$ VS ΔPP

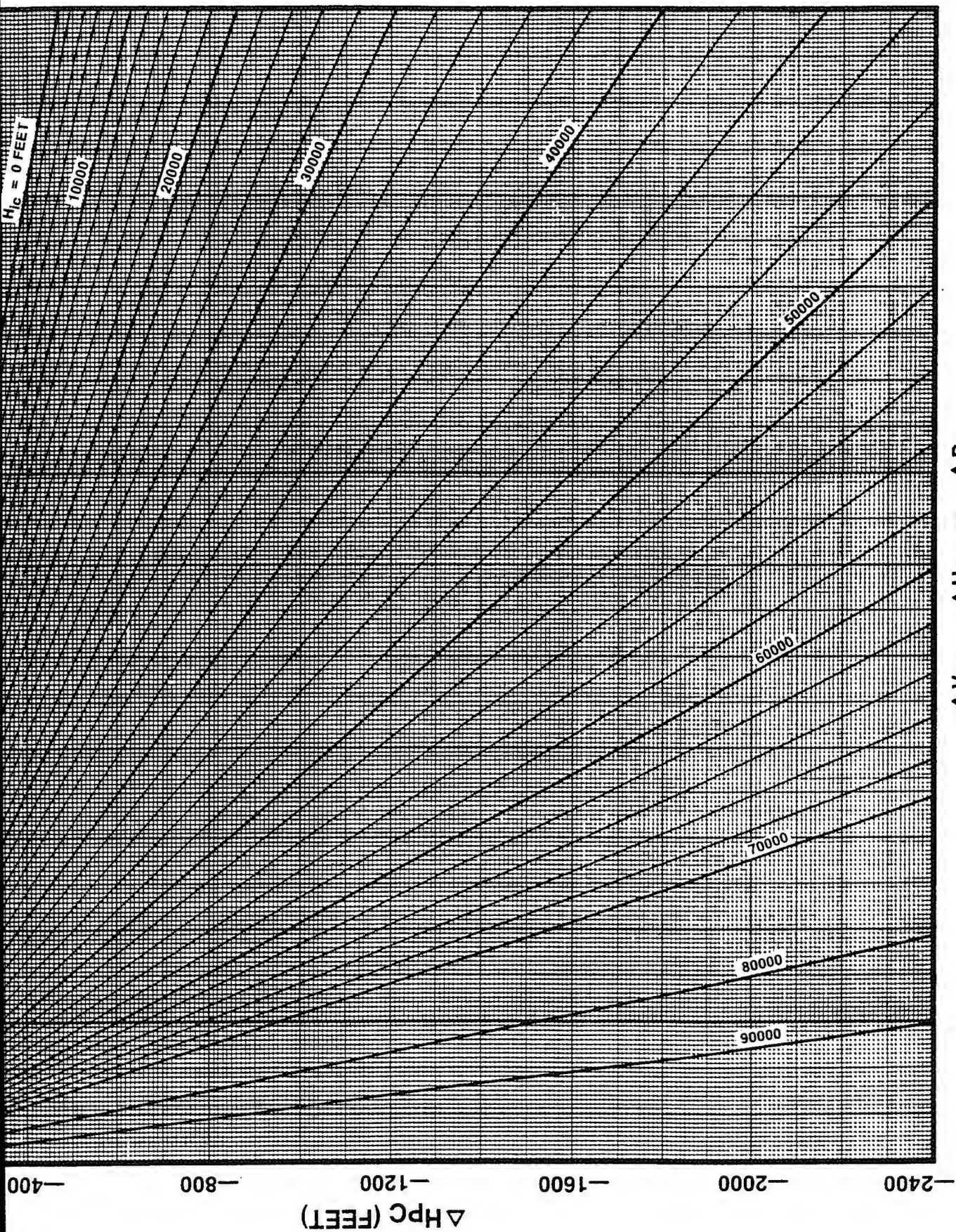


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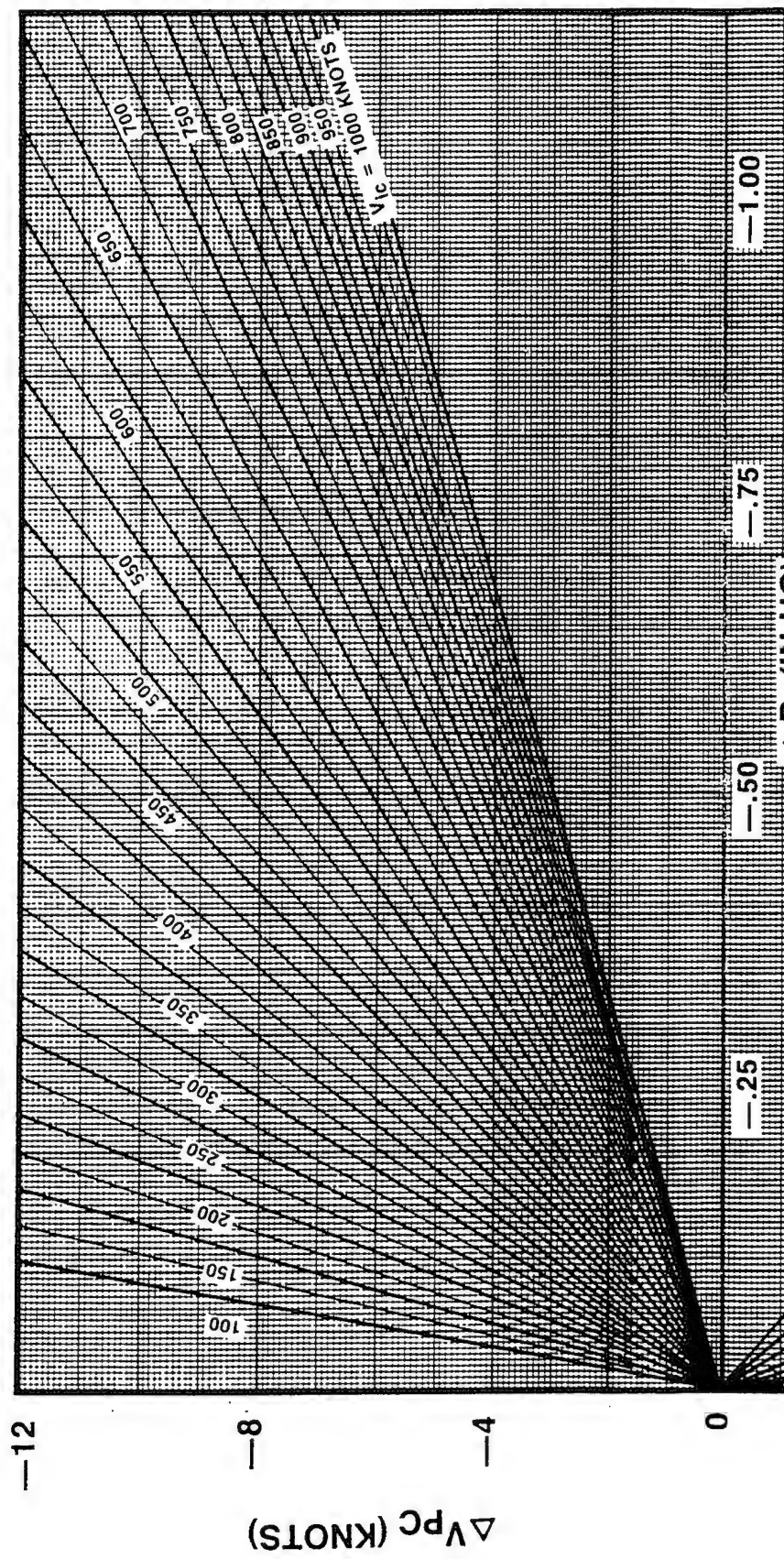
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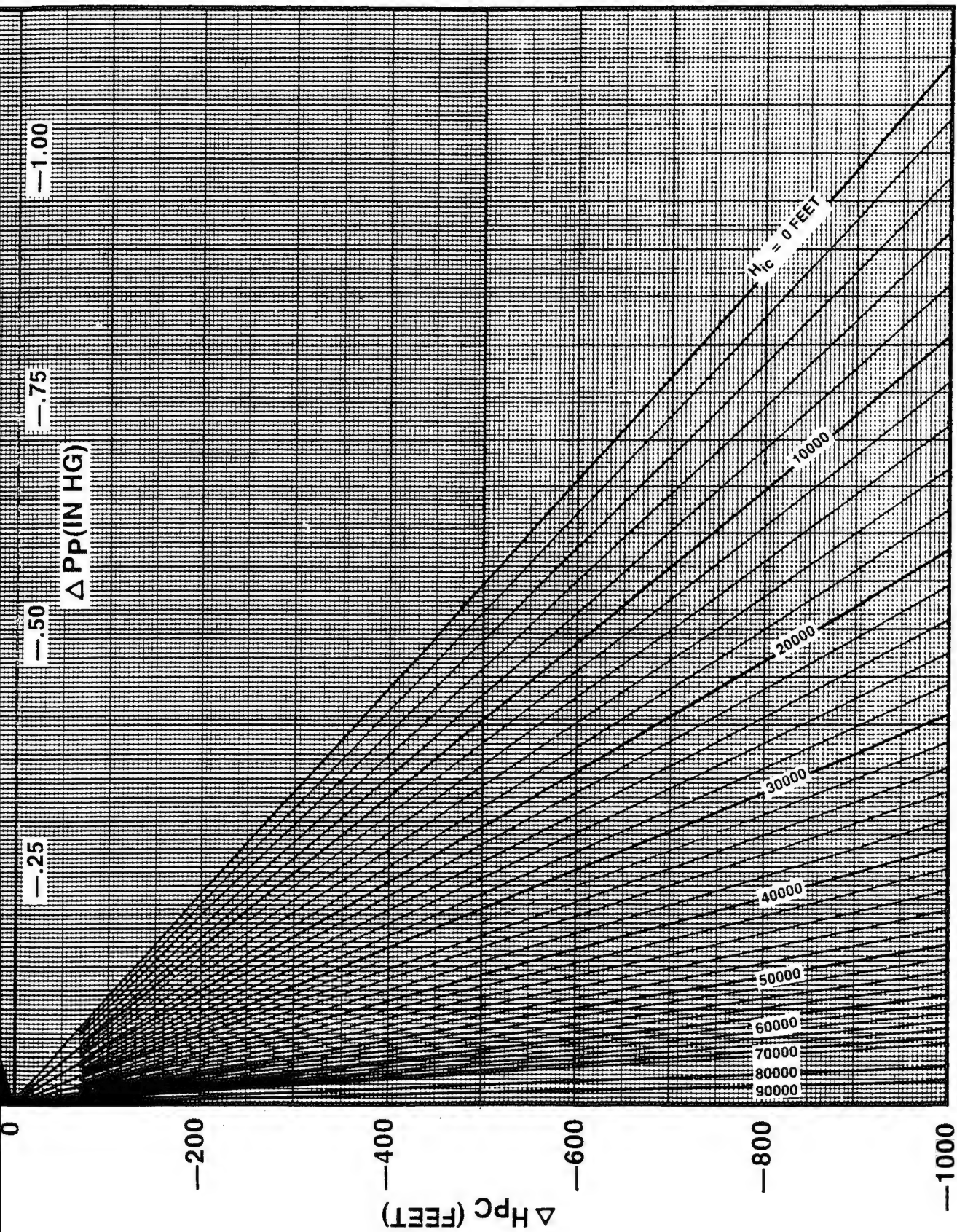




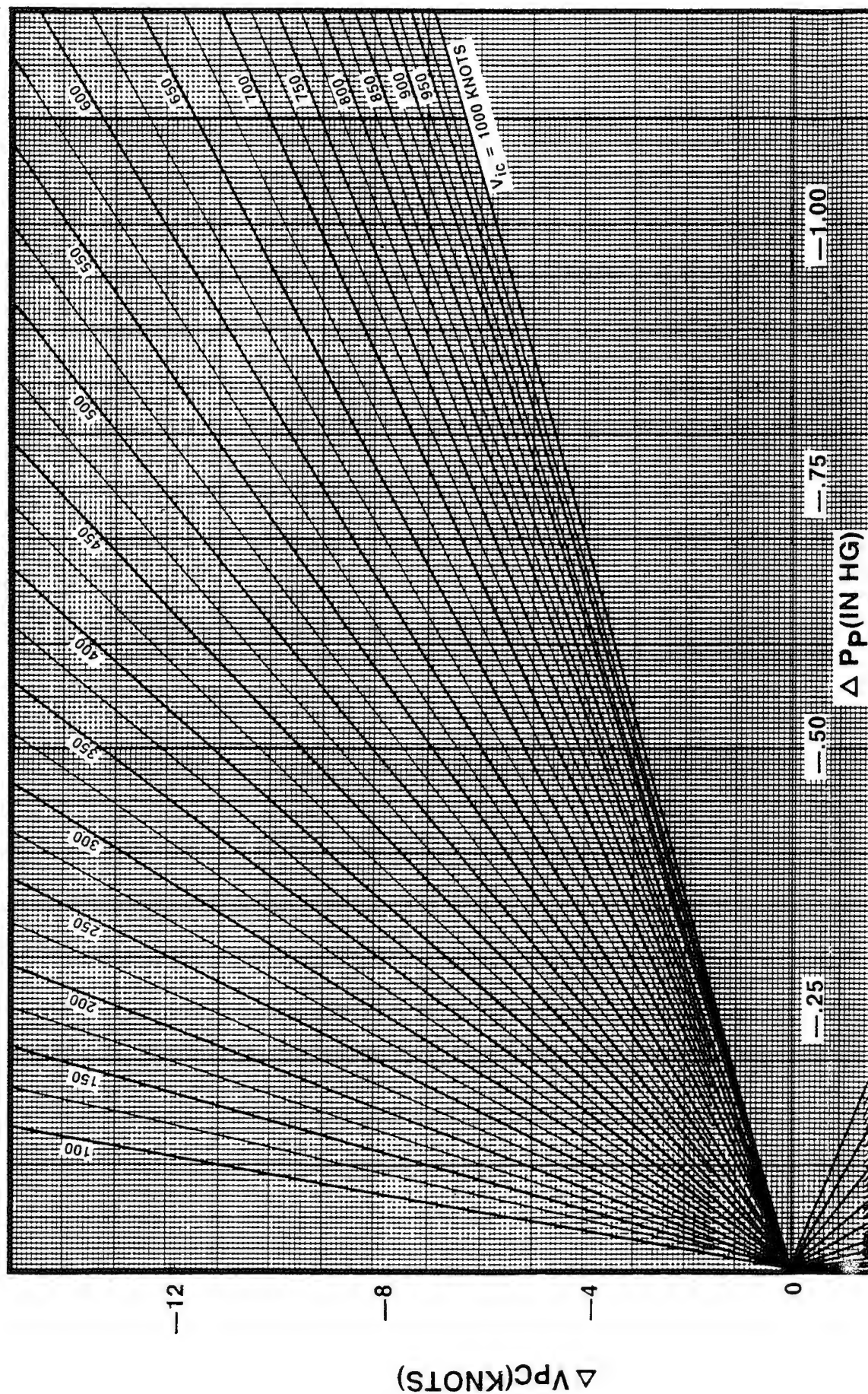


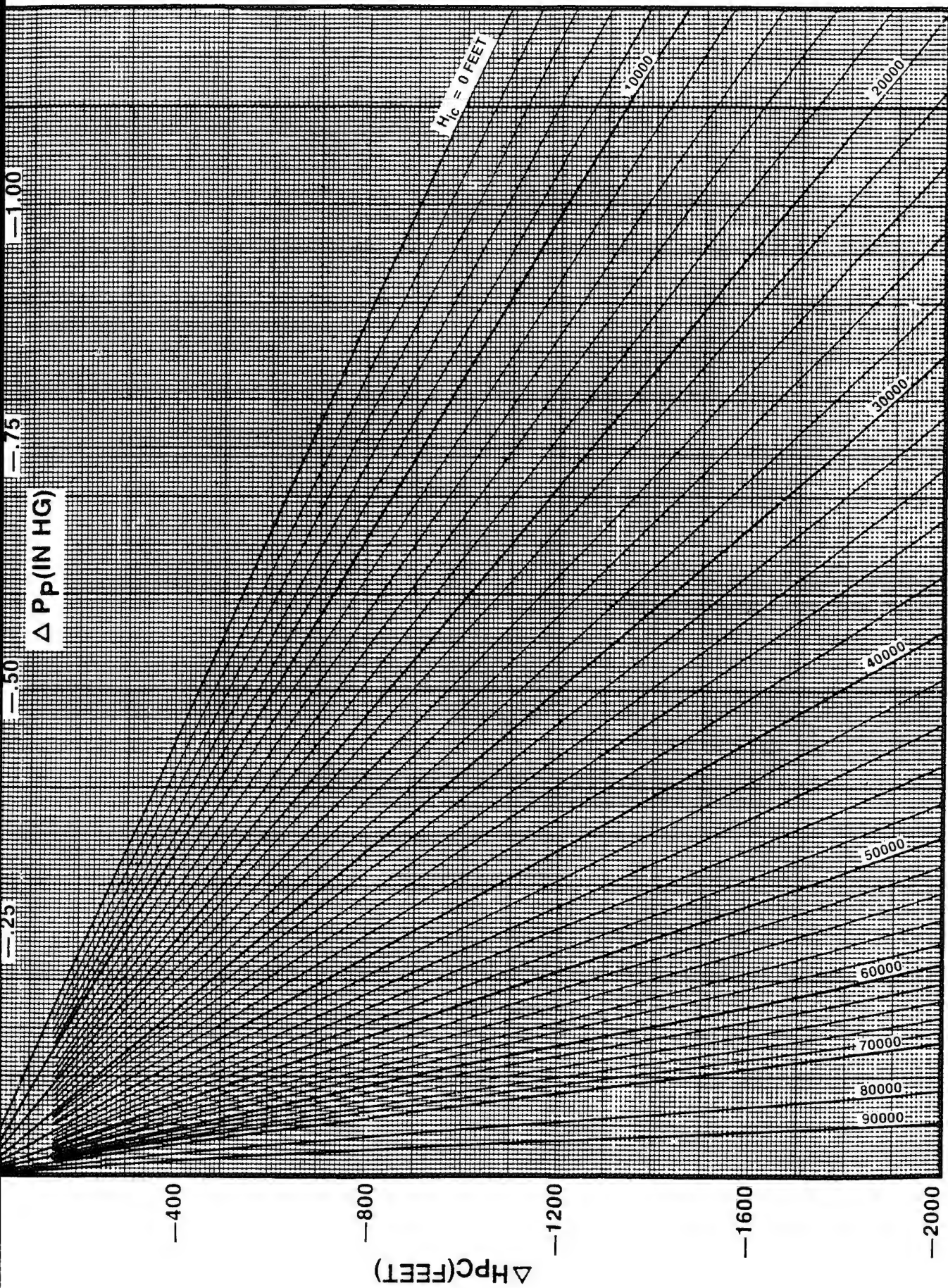
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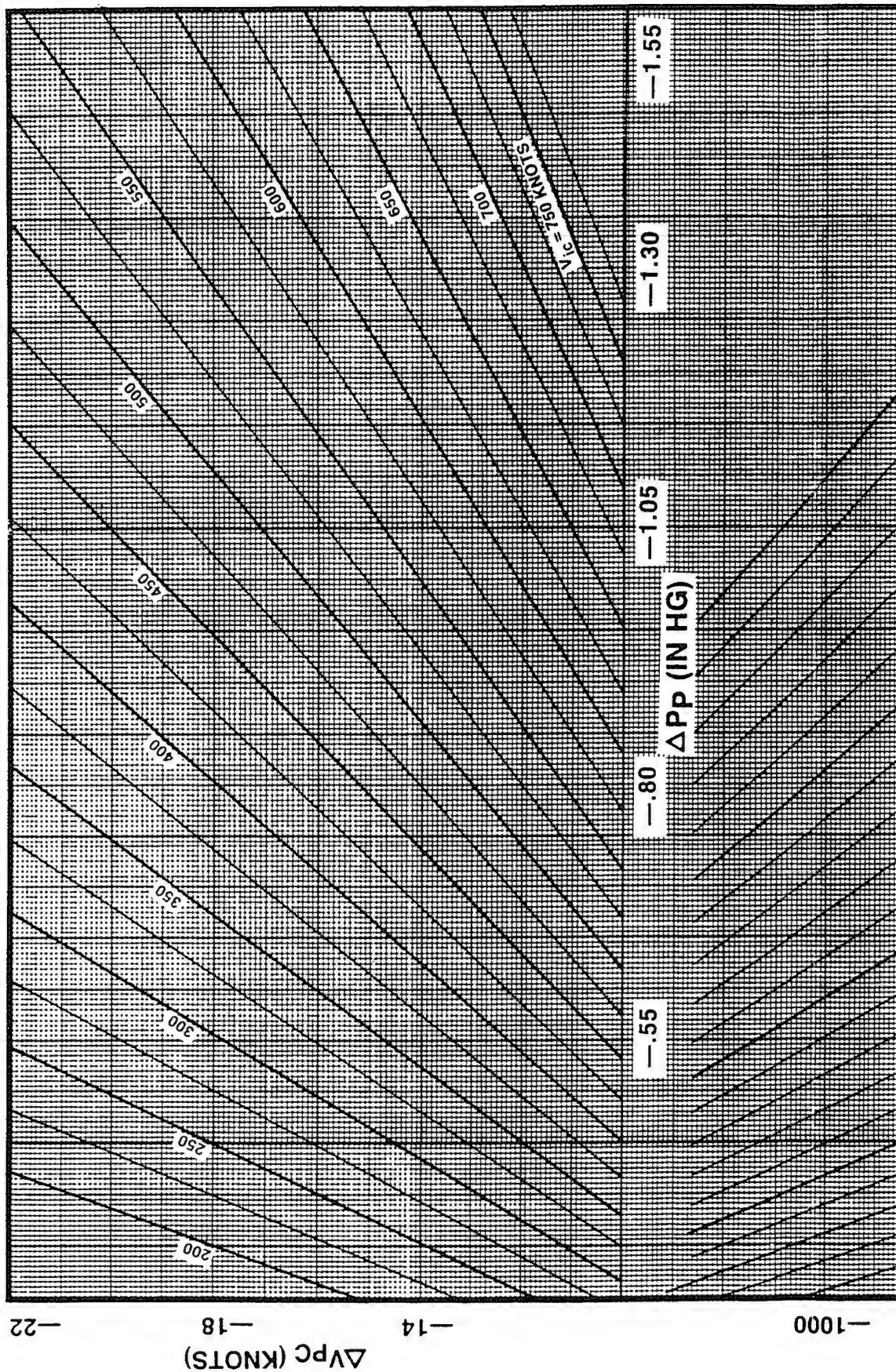
— ΔV_{PC} , — ΔH_{PC} vs — ΔPP



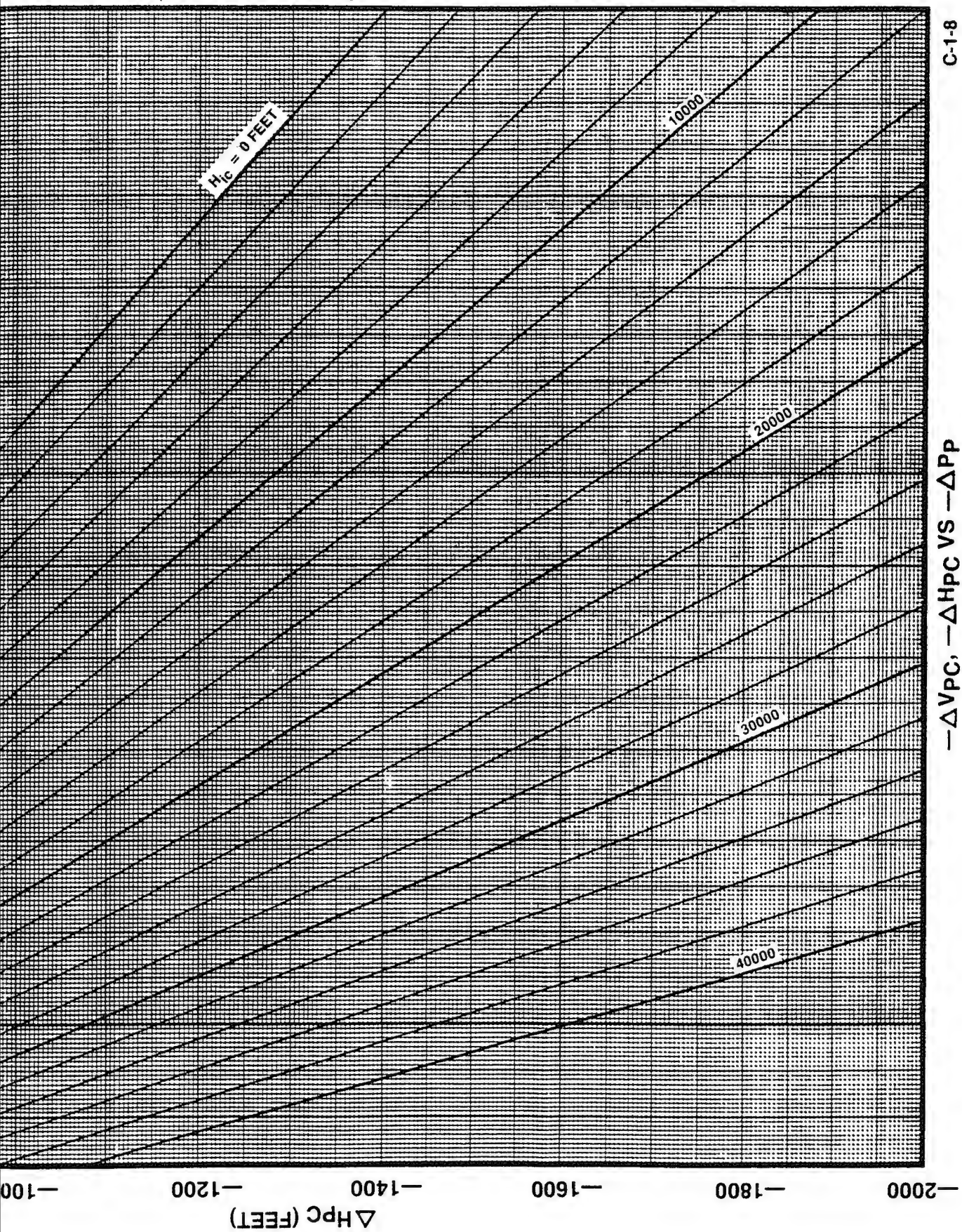


— ΔV_{PC} , ΔH_{PC} vs — ΔP_P

①

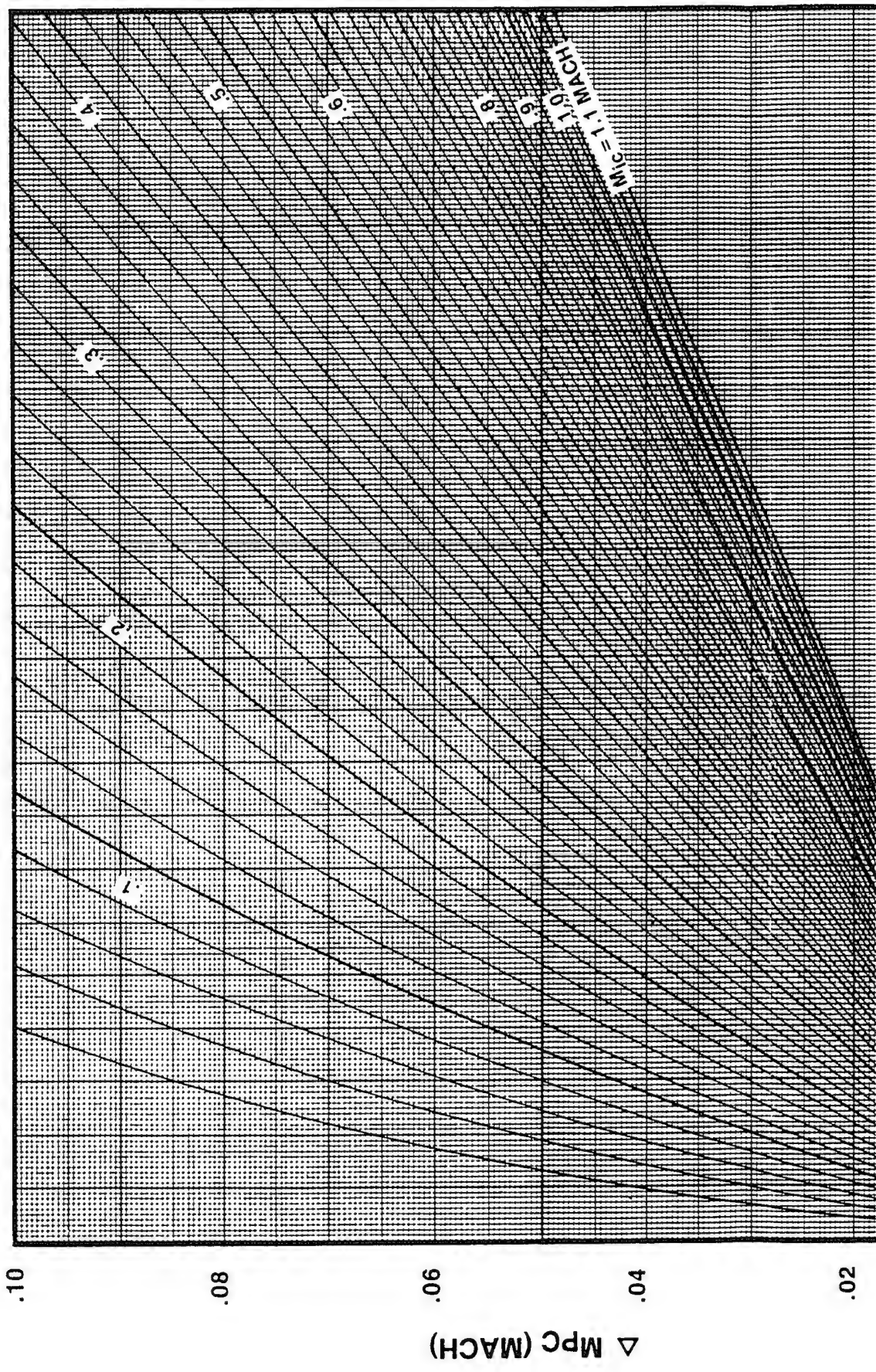


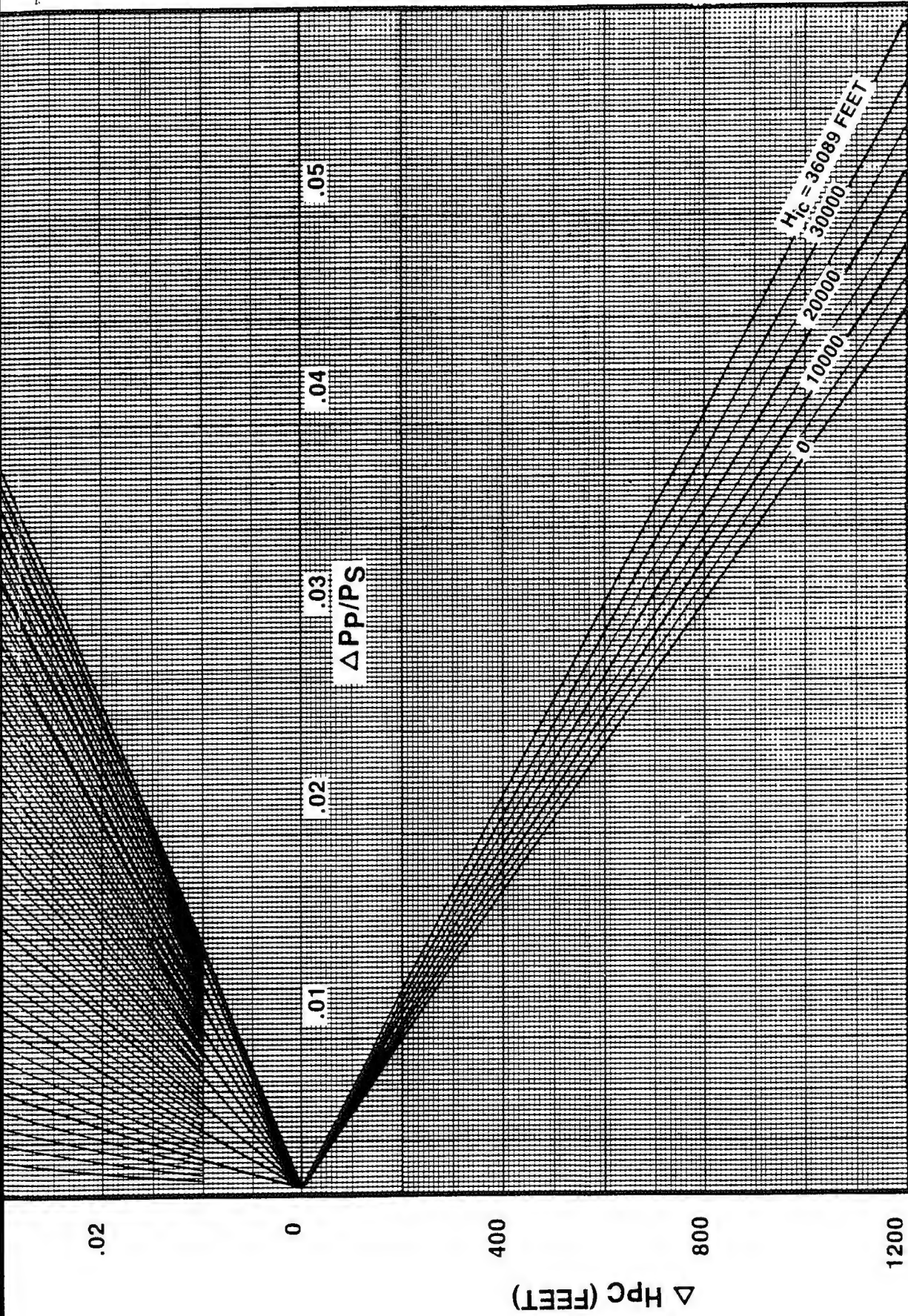
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C-1-8

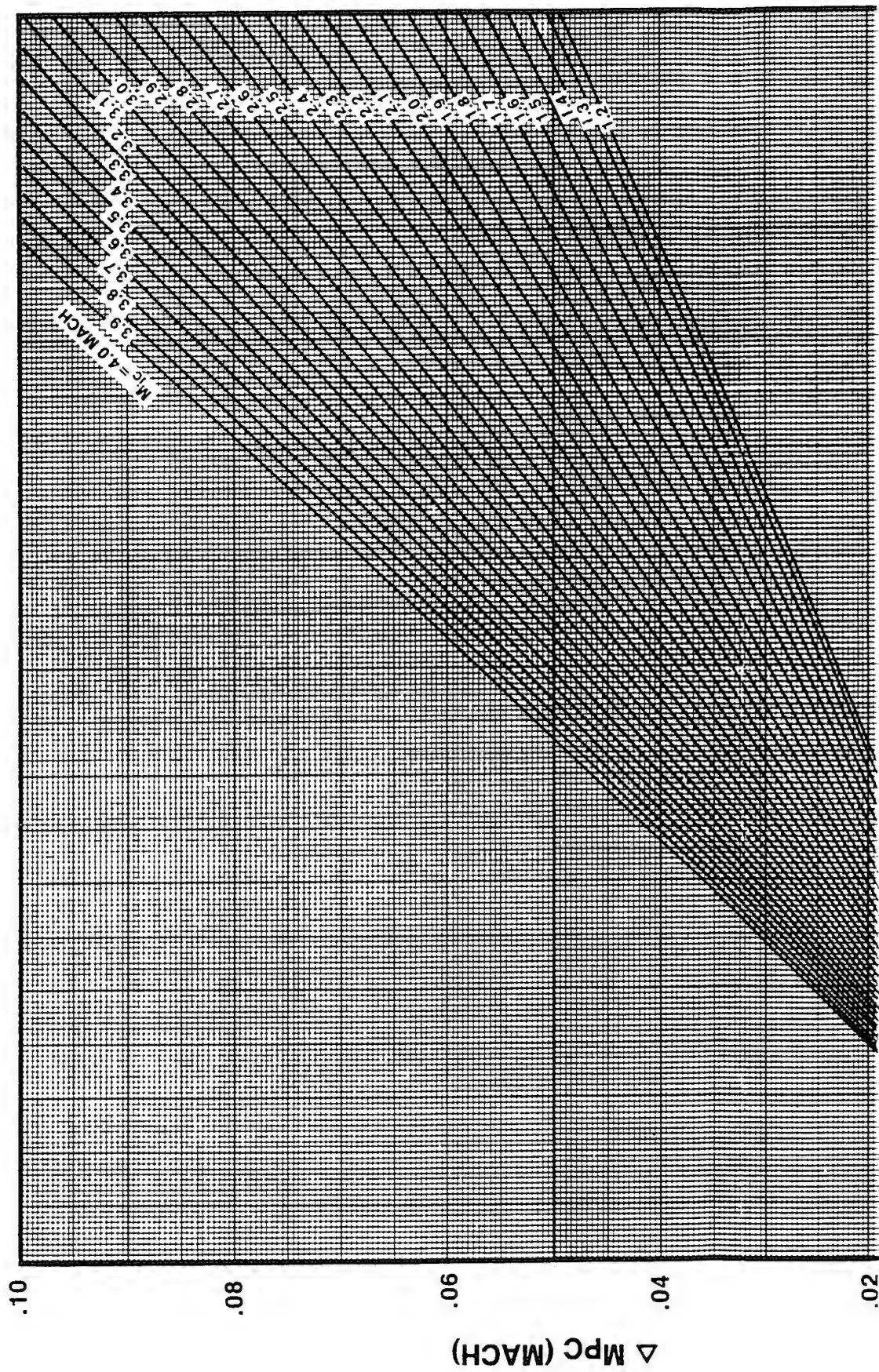
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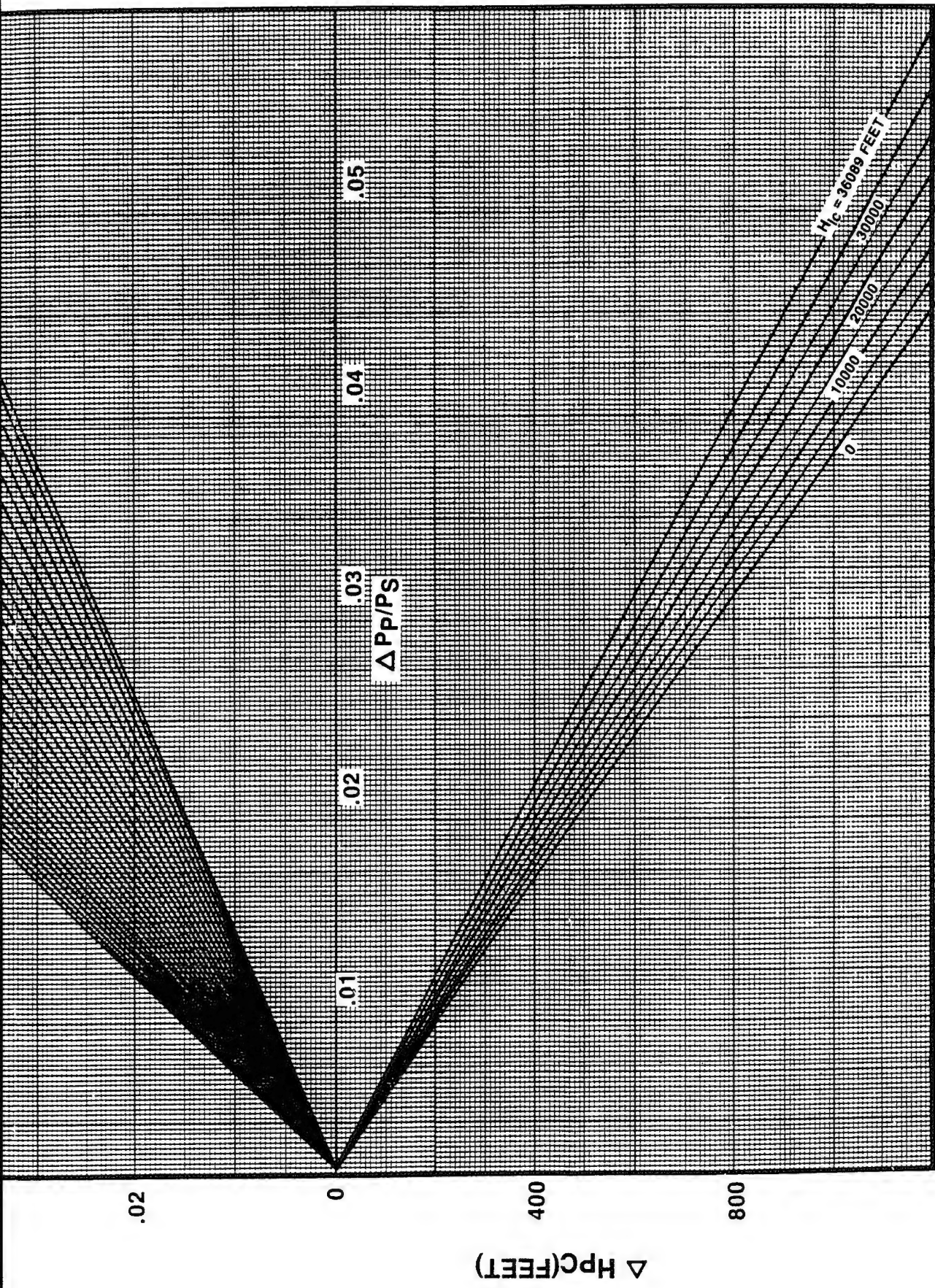




$\Delta M_{PC}, \Delta H_{PC}$ vs $\Delta P_p/PS$

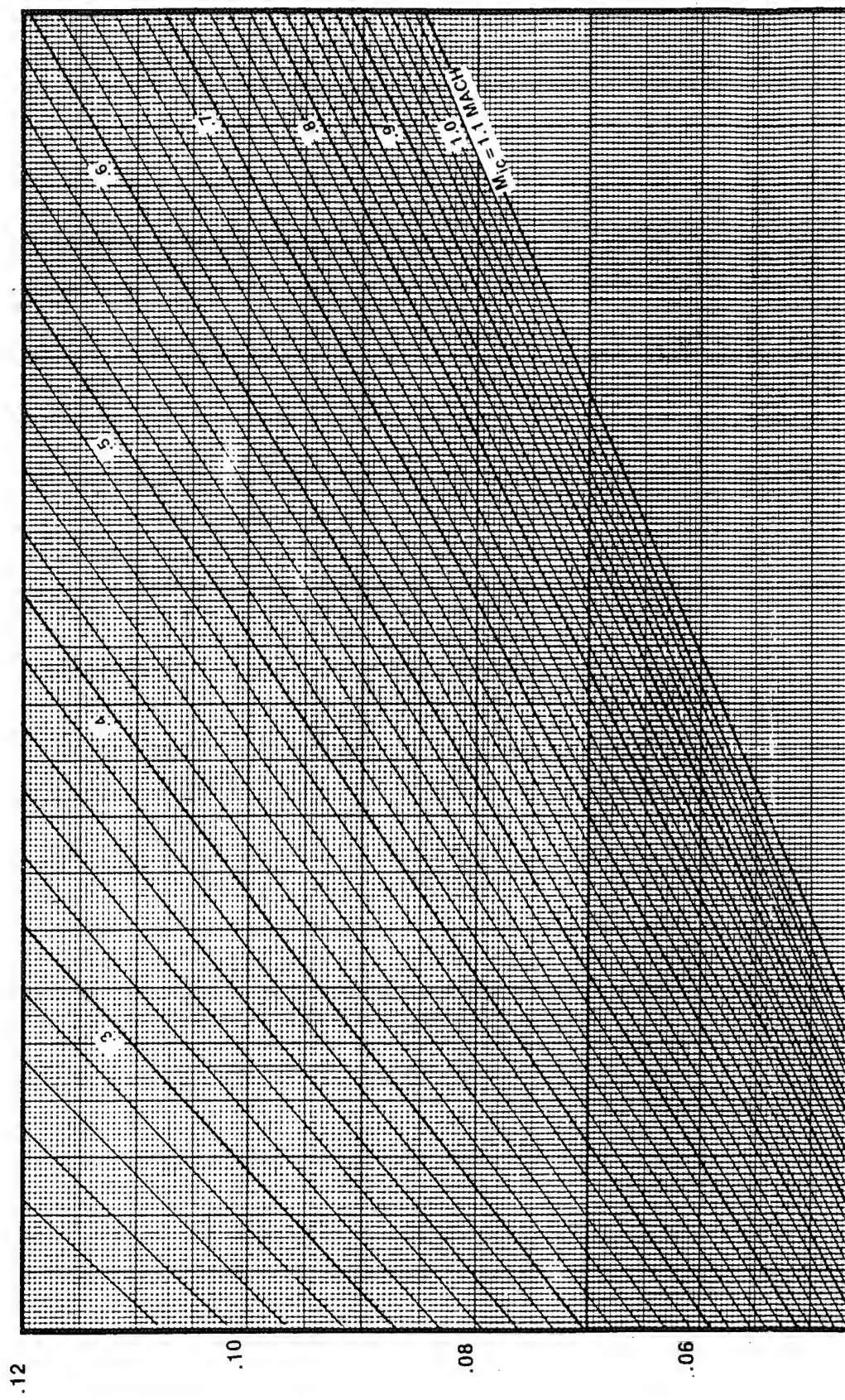
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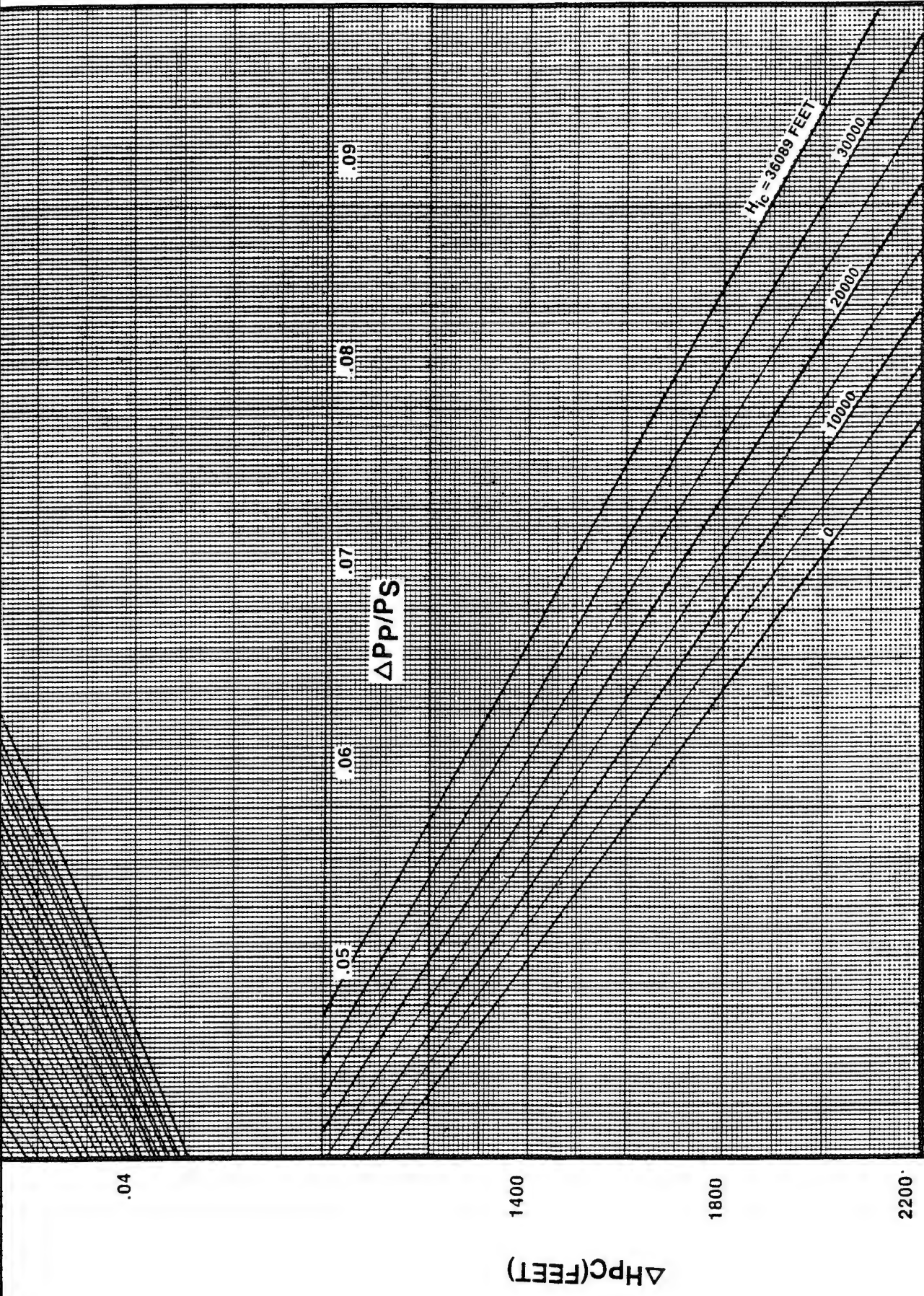
$\Delta M_{PC}, \Delta H_{PC}$ vs $\Delta P_p/PS$

①



$\Delta MPC(MACH)$

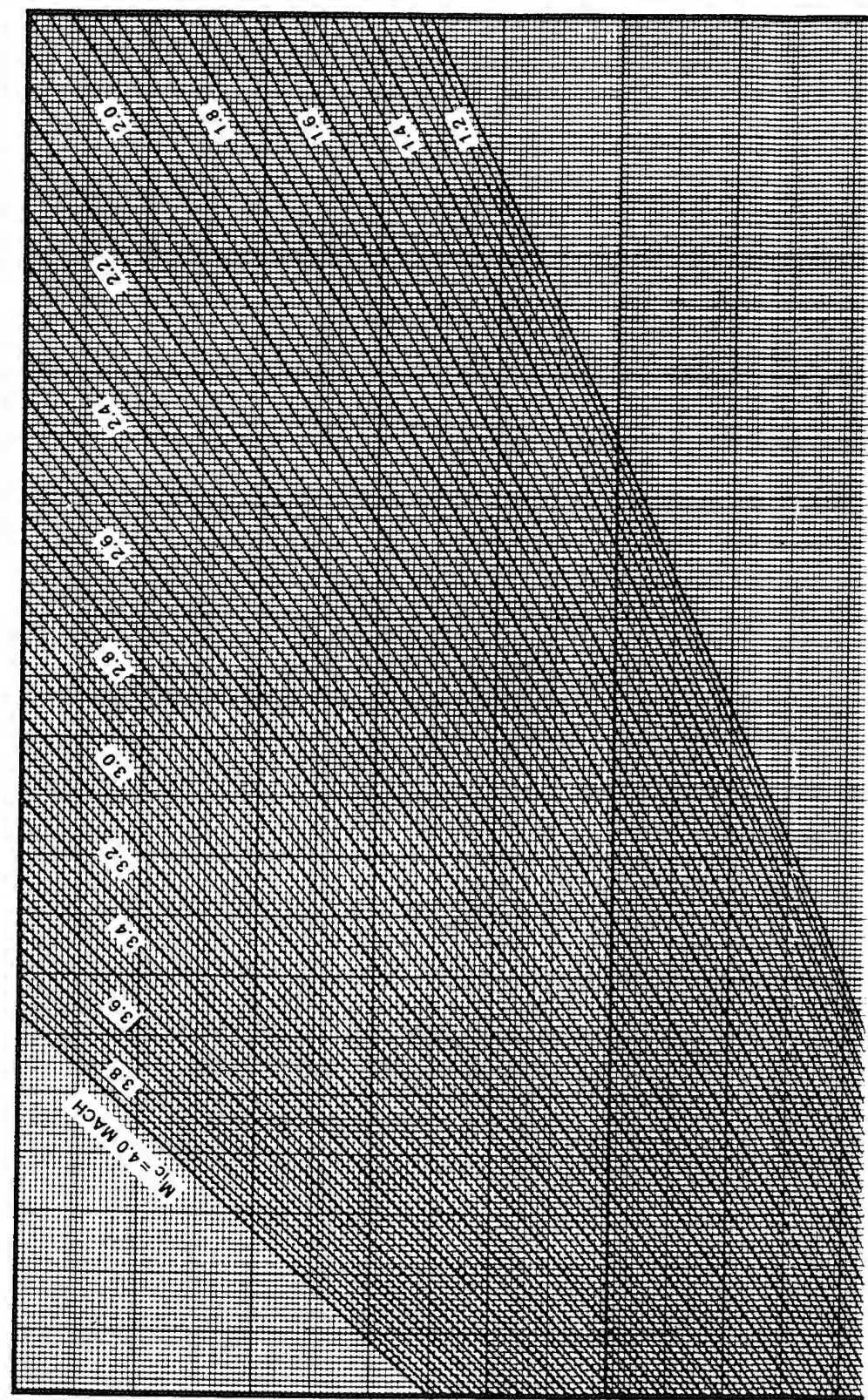
(2)



$\Delta M_{PC}, \Delta H_{PC}$ vs $\Delta PP/PS$

C-1-11

①



$\Delta MPC (MACH)$

.12

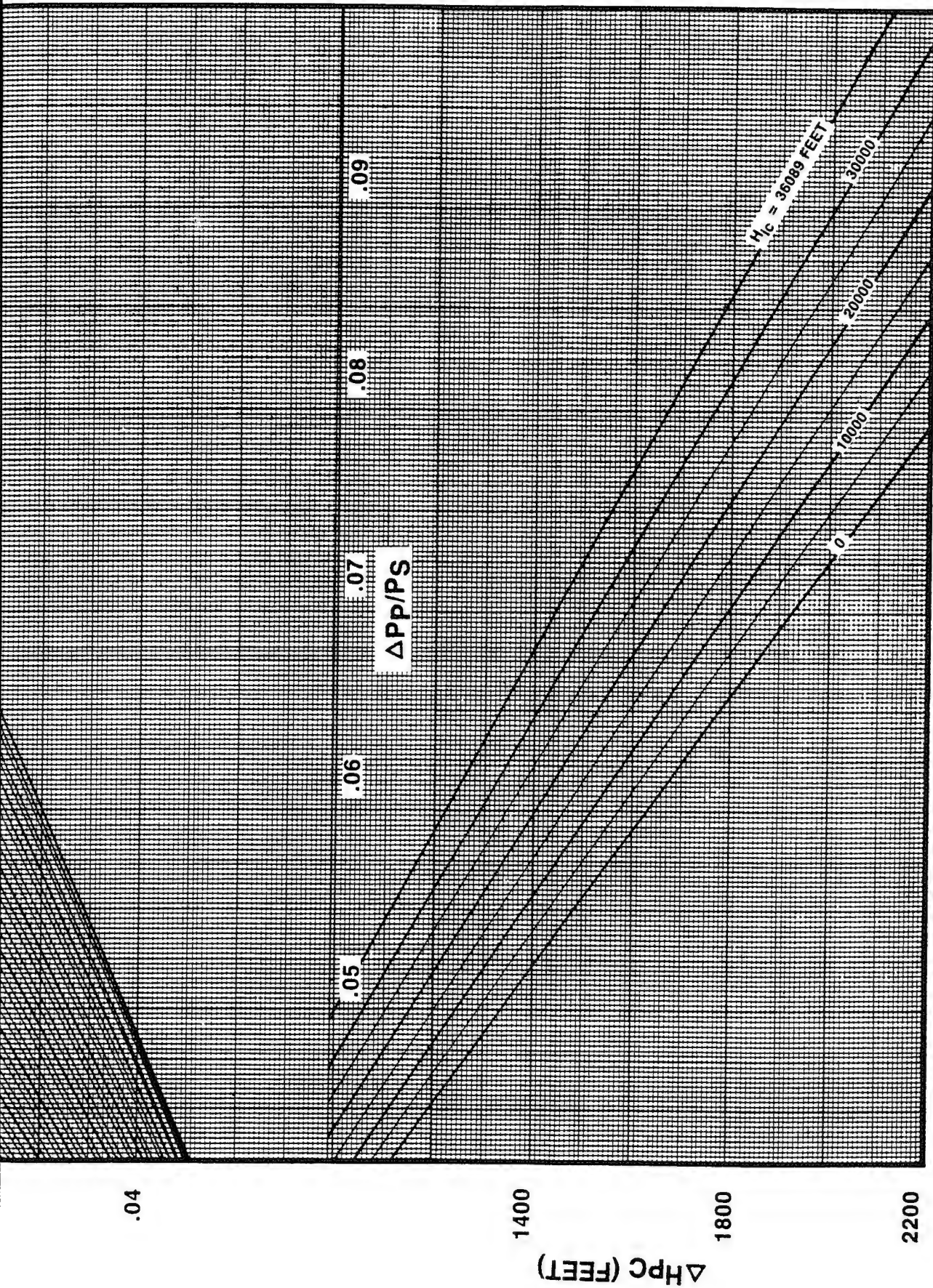
.10

.08

.06

$M_c = 4.0 MACH$

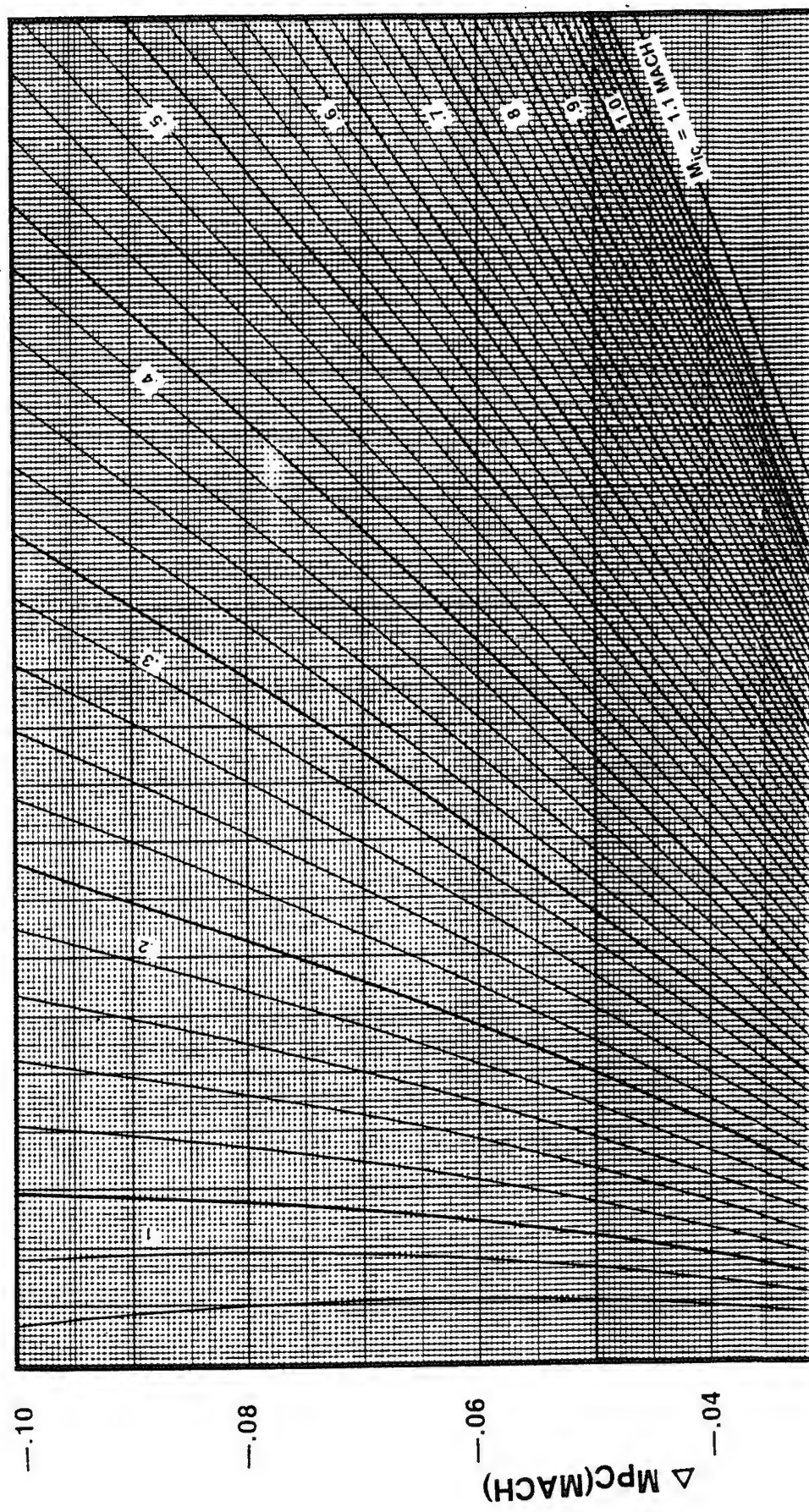
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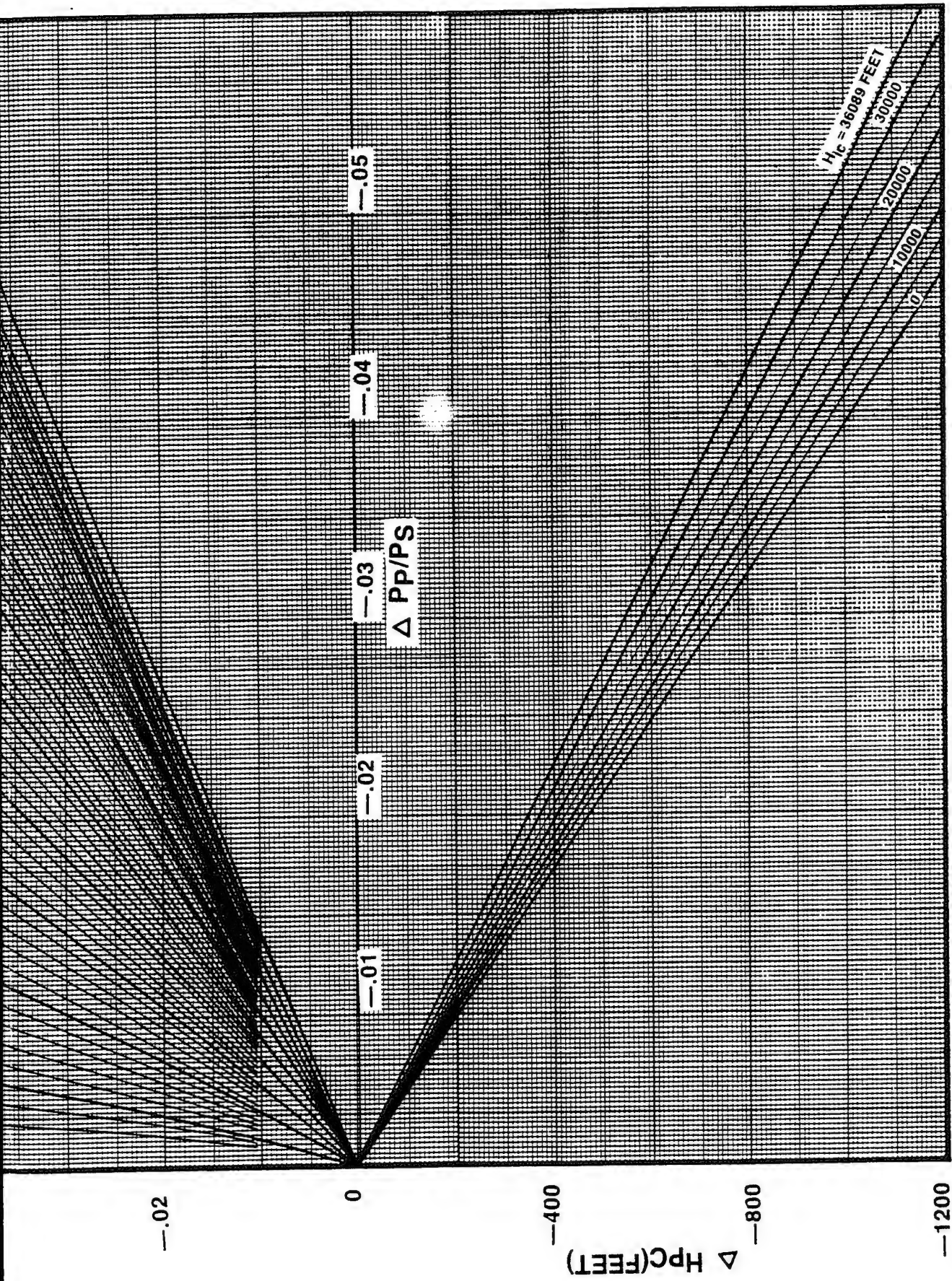


— ΔM_{PC} , — ΔH_{PC} vs — $\Delta P_p/PS$

C-1-12

①

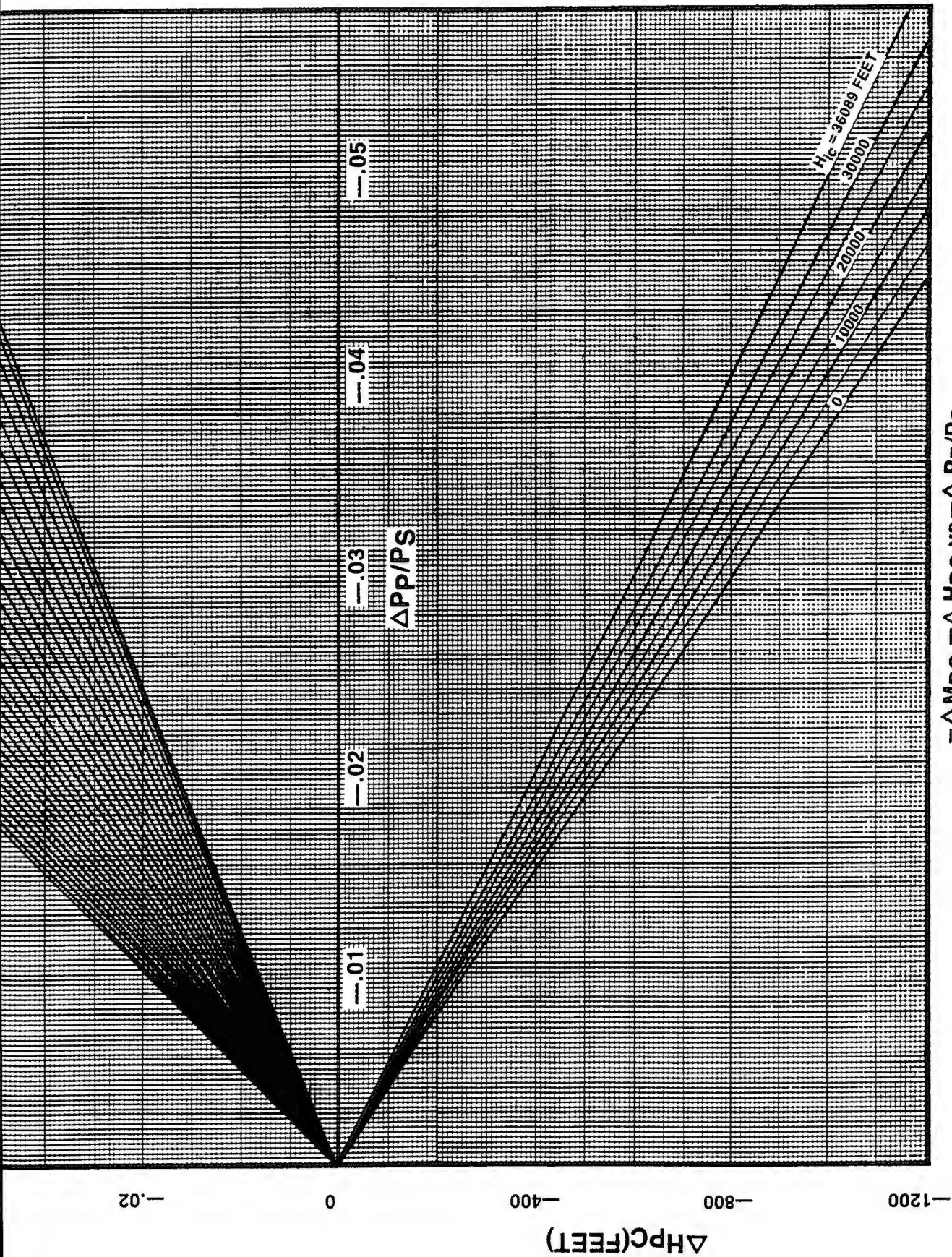




$-\Delta MPC, -\Delta HPC$ vs $-\Delta PP/PS$

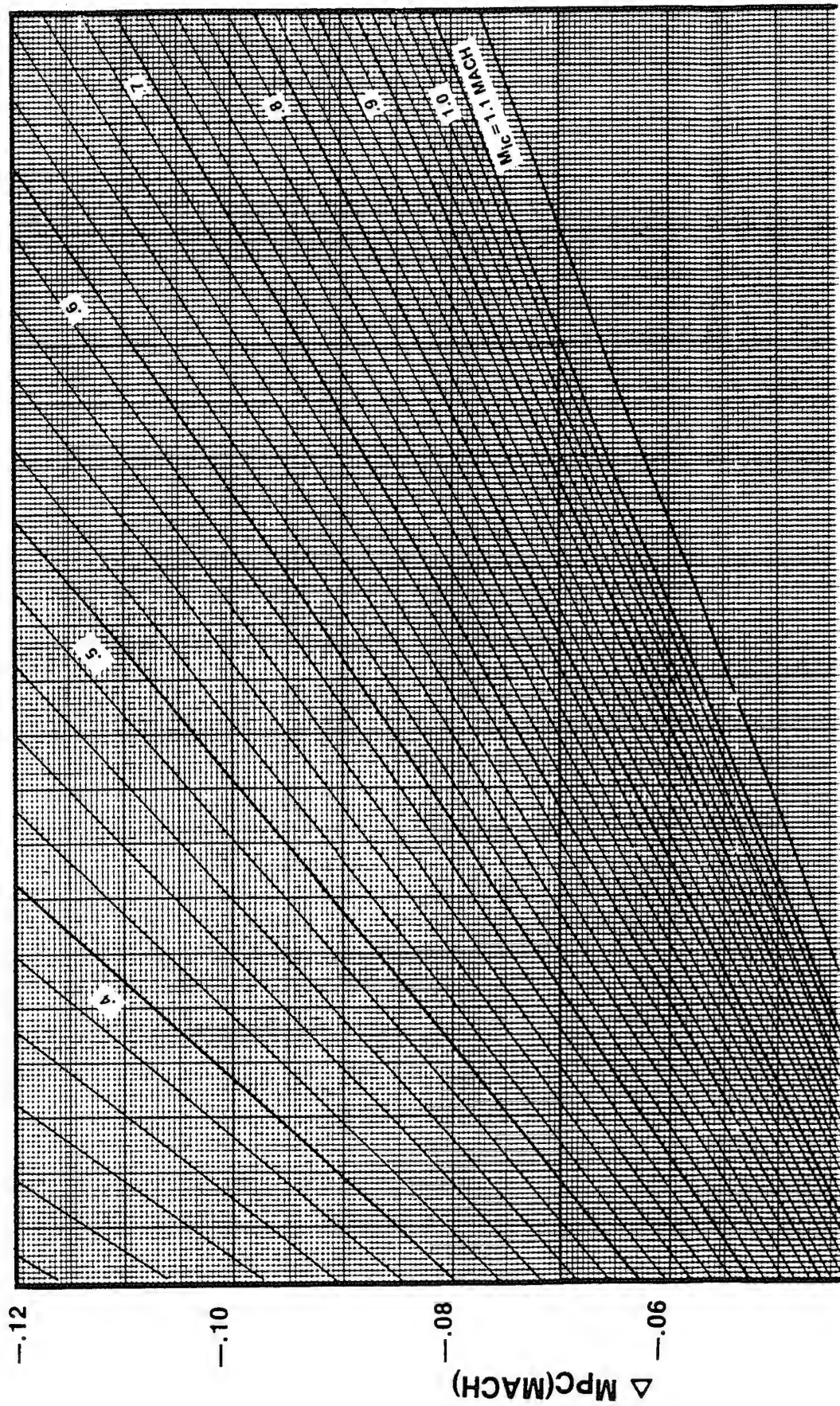
The graph shows the relationship between the Mach number M_c and the parameter $\Delta M_{pc}(MACH)$ for $M_c = 4.0$ MACH. The y-axis represents $\Delta M_{pc}(MACH)$ and ranges from -0.10 to -0.04. The x-axis represents M_c and ranges from 1 to 10. The graph is filled with a grid of diagonal lines, each labeled with a value from 1.0 to 10.0. The lines are labeled as follows:

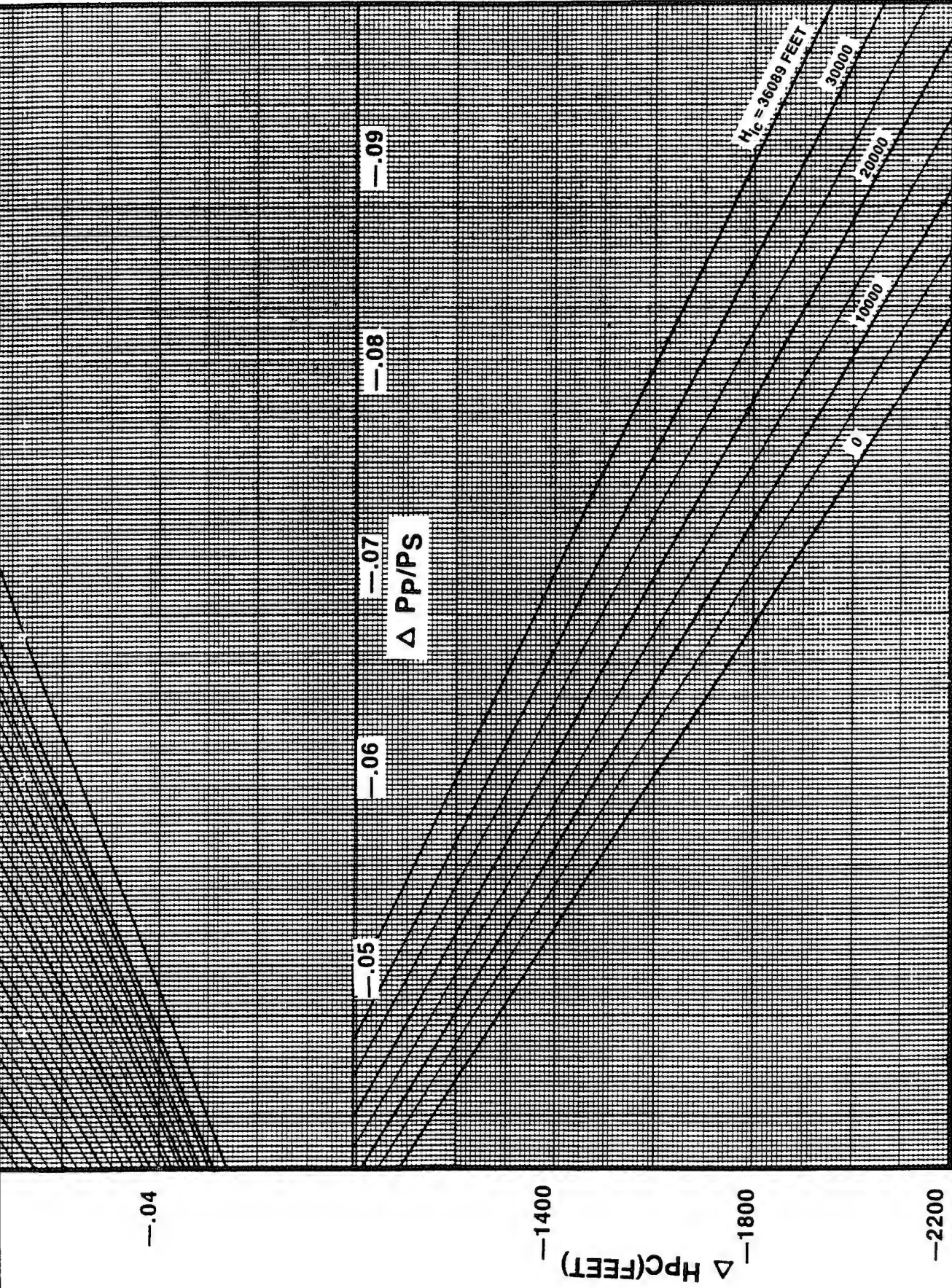
- 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 2.0, 2.2, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0



$-\Delta MPC; -\Delta HPC$ vs $-\Delta PP/PS$

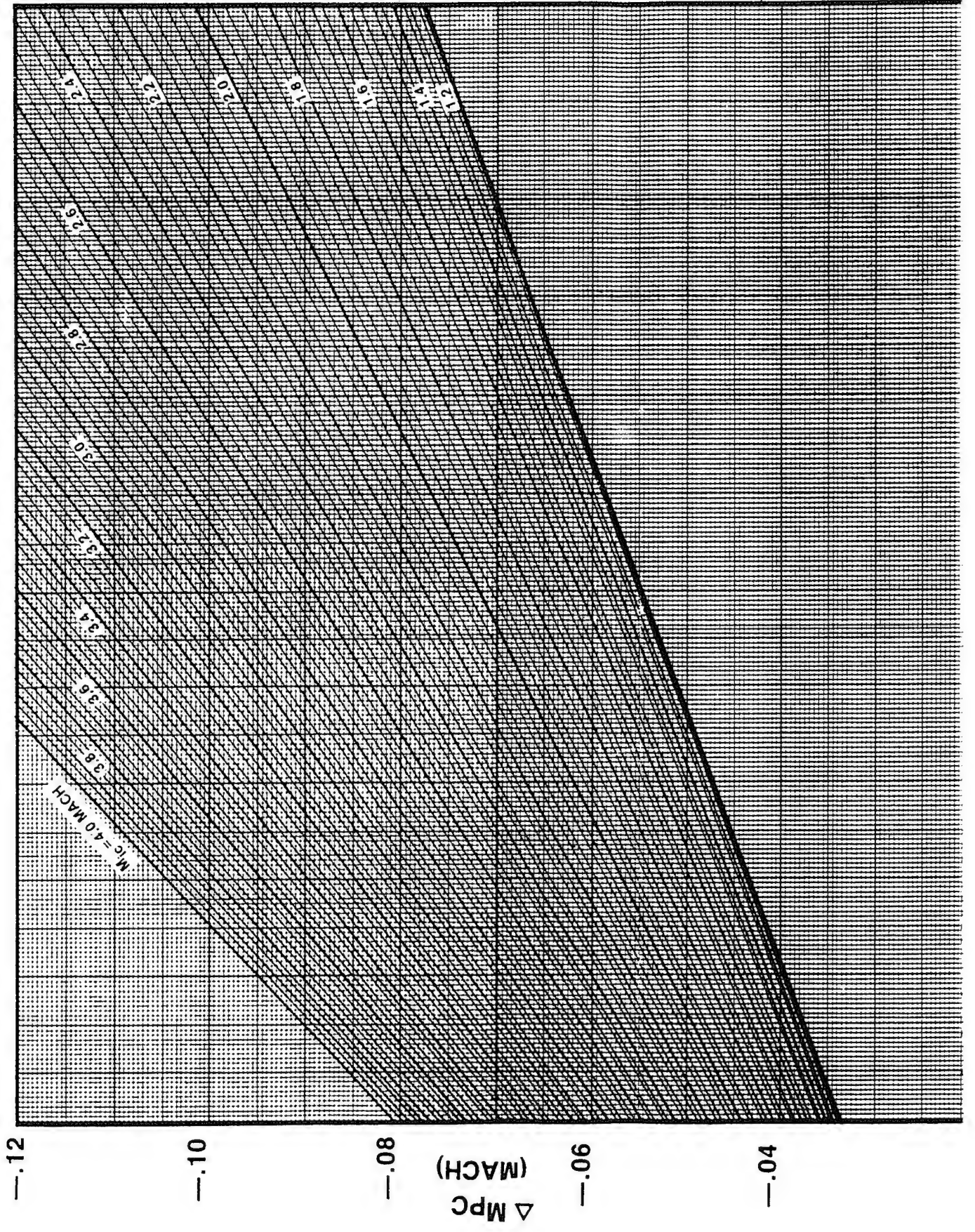
C-1-14

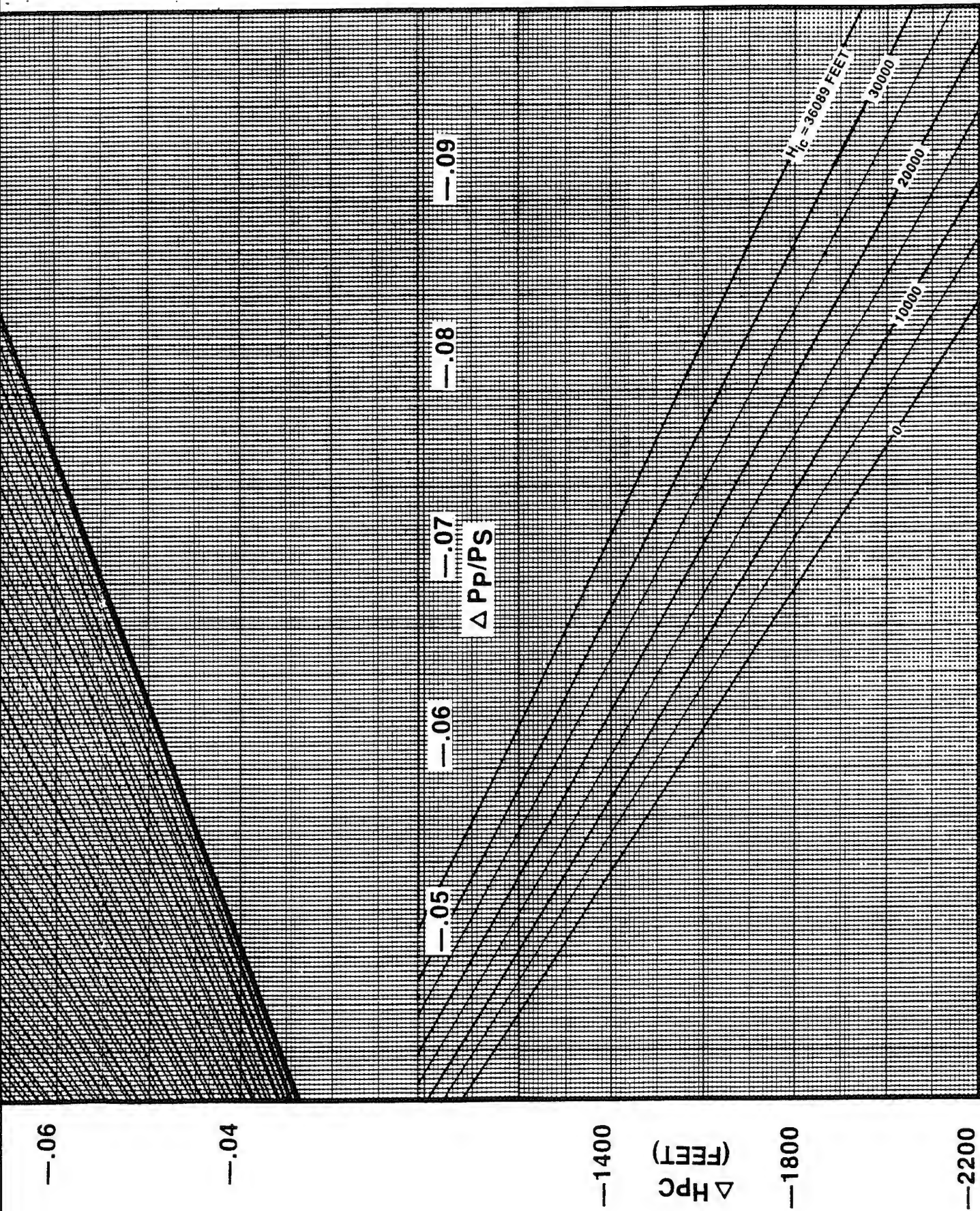




— ΔM_{PC} , — ΔH_{PC} vs — $\Delta P_p/P_s$

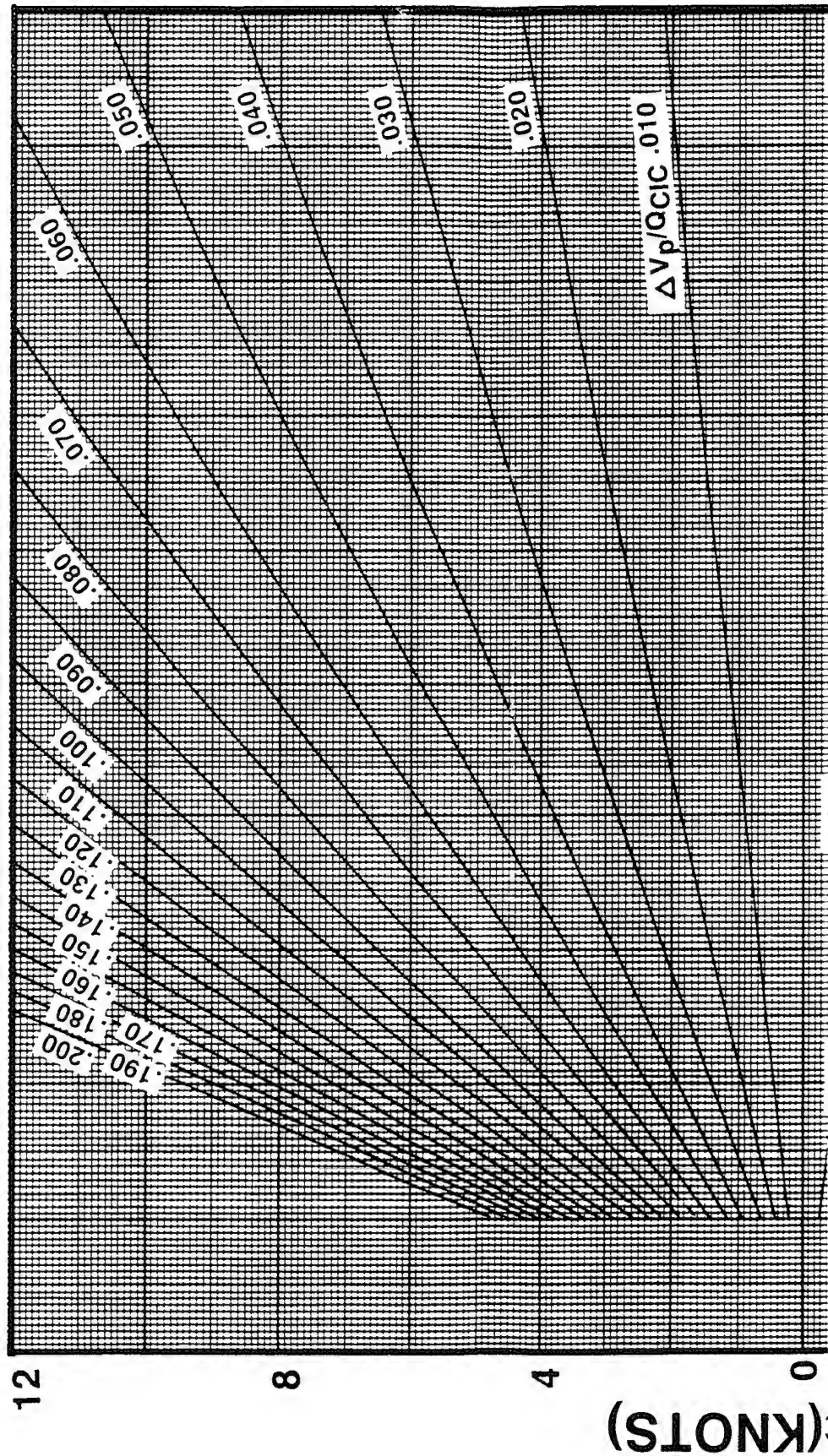
①



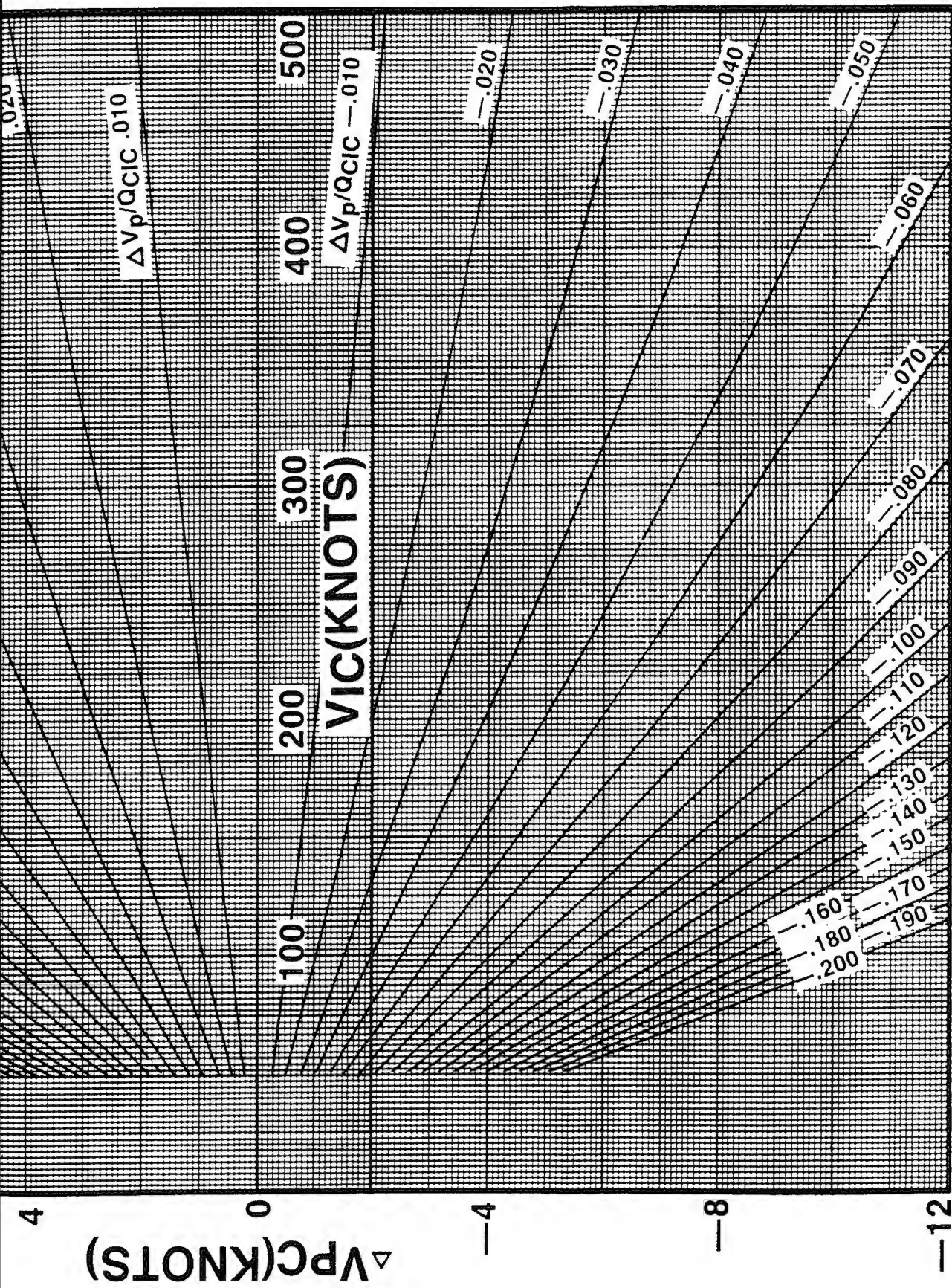


— ΔM_{PC} , — ΔH_{PC} vs — $\Delta PP/PS$

1

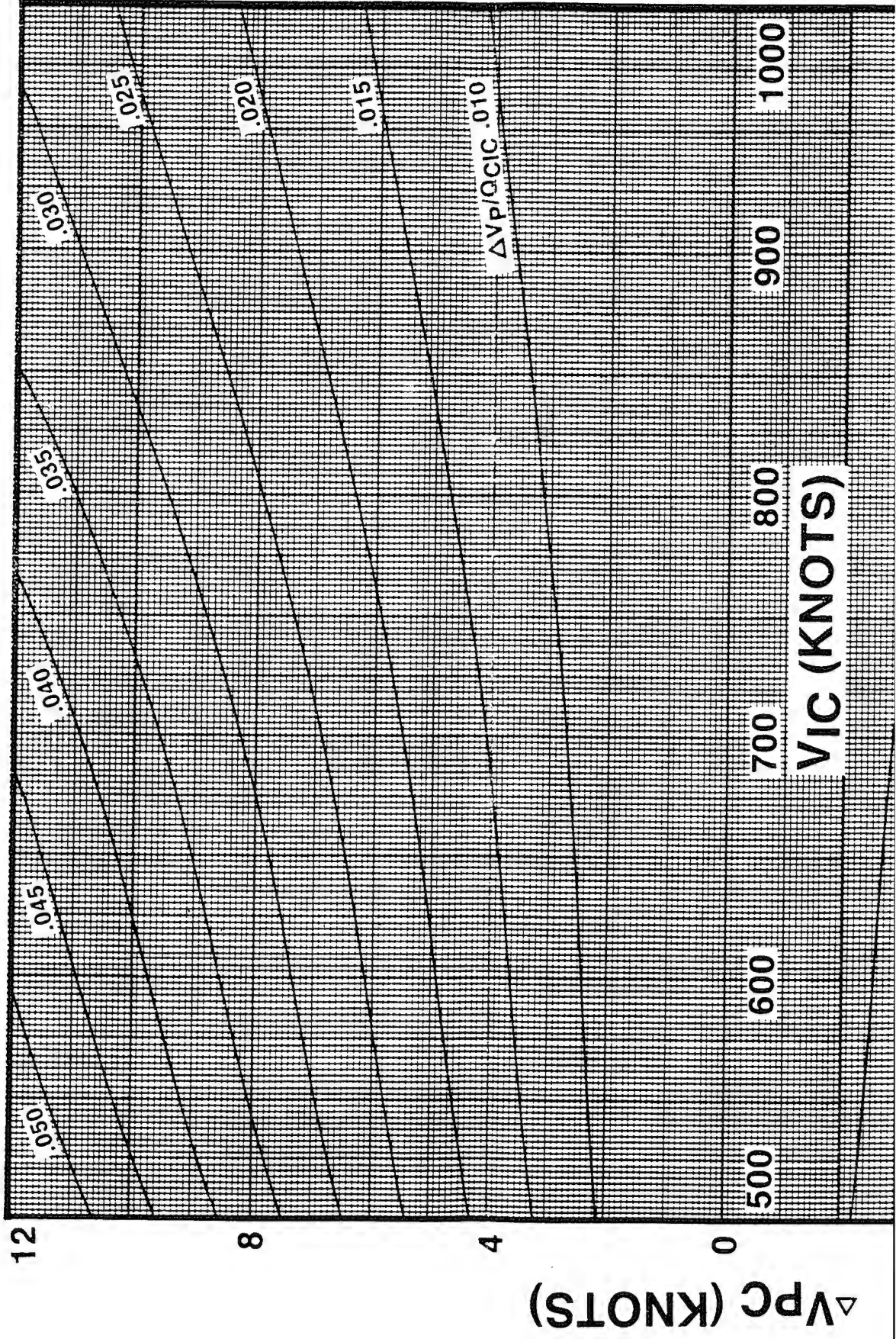


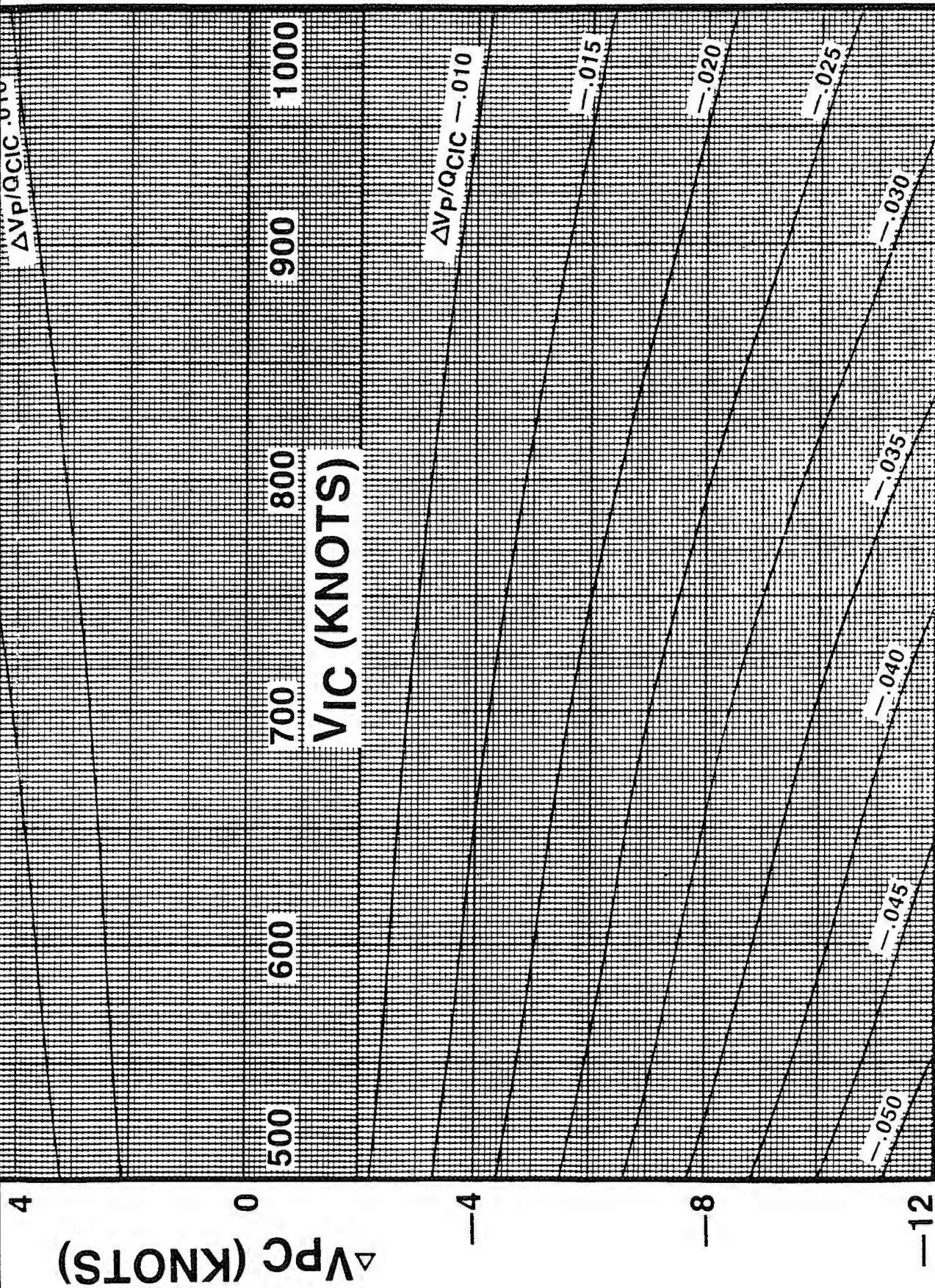
12



ΔV_{PC} VS V_{IC} @ $\Delta P_P = \text{CONST}$
C-1-17

①



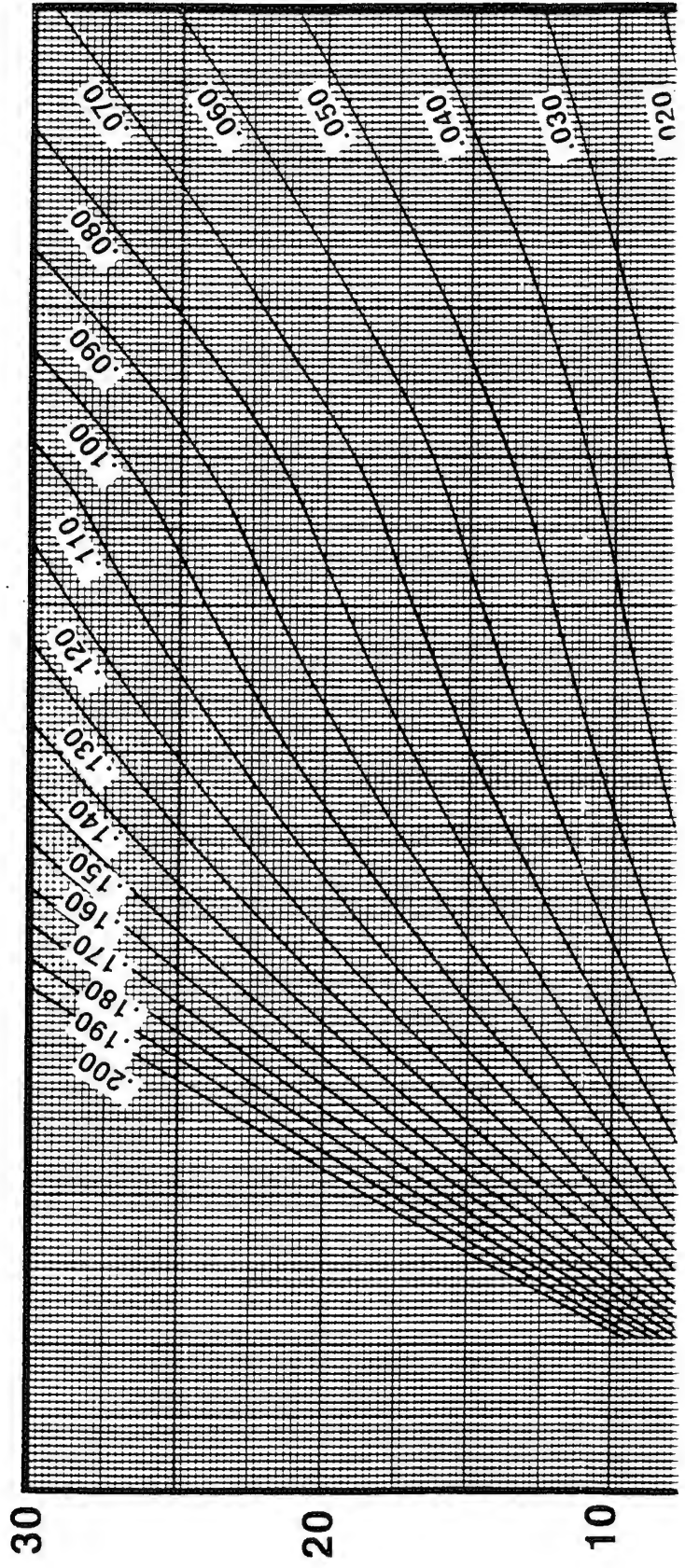


ΔV_{PC} VS V_{IC} @ $\frac{\Delta P_P}{q_{cic}} = \text{CONST}$

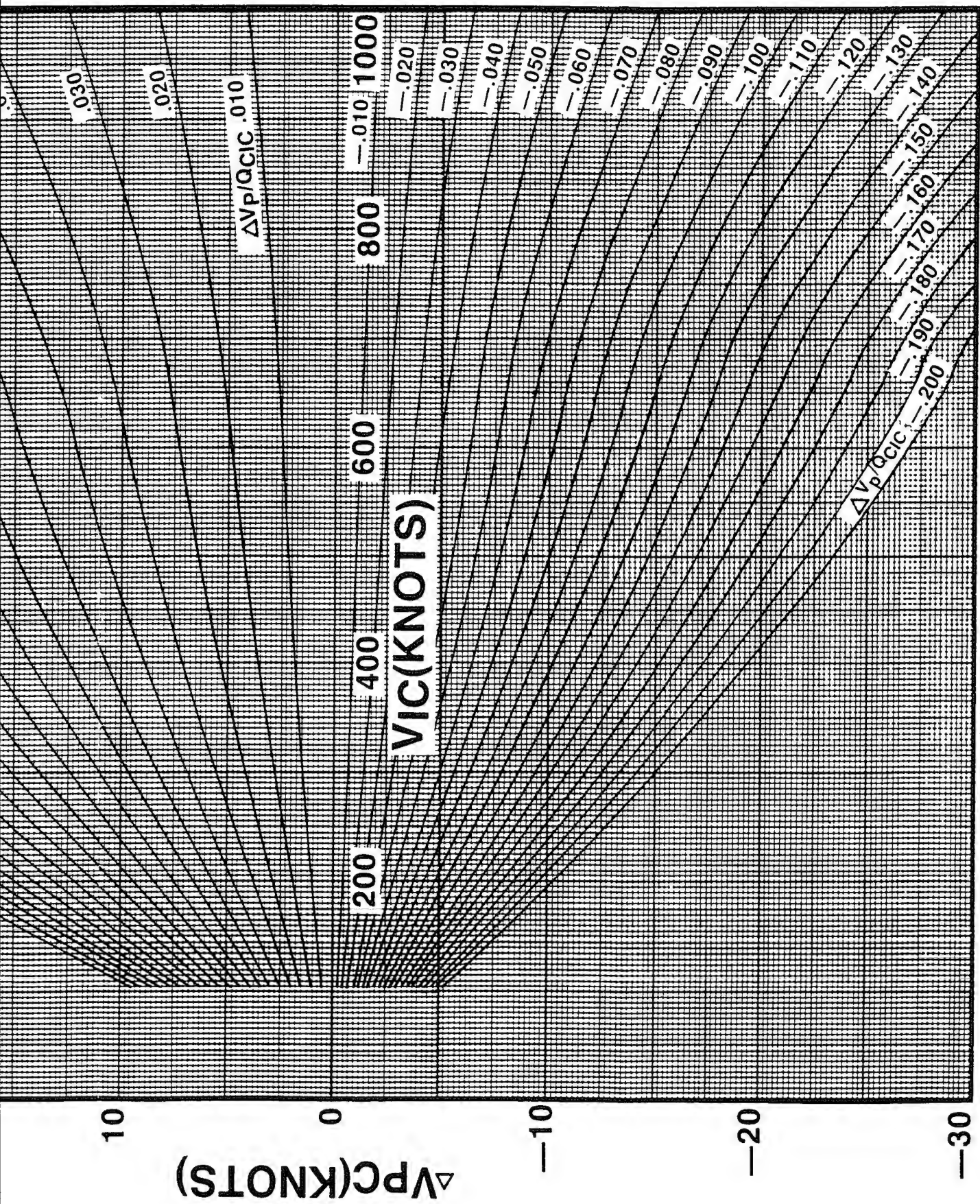
C-1-18

2

①



2



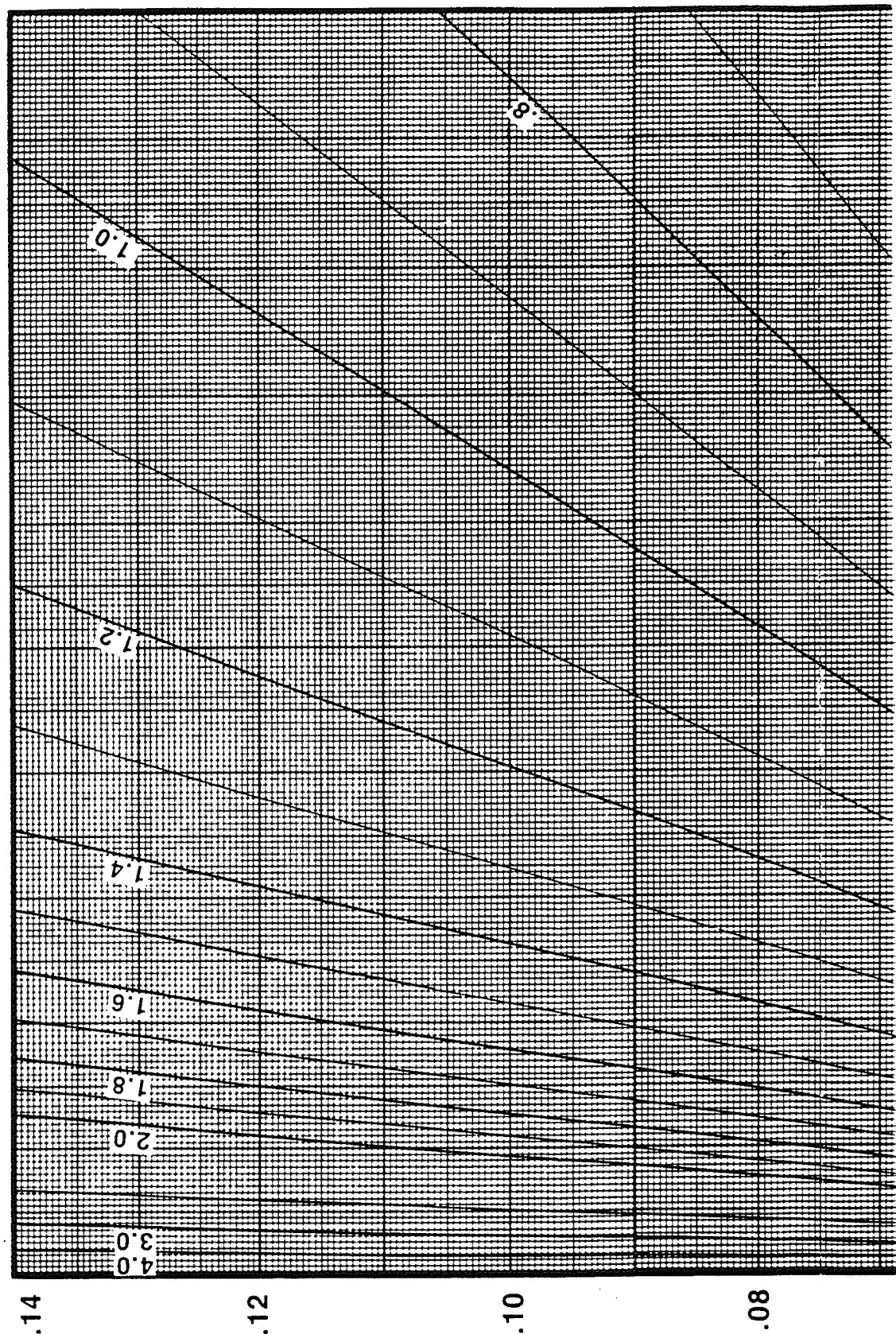
$VIC(KNOTS)$

$\Delta V_{PC}(KNOTS)$

$\Delta V_{PC} \text{ VS } V_{IC} @ \frac{\Delta P_P}{q_{CIC}} = \text{CONST}$

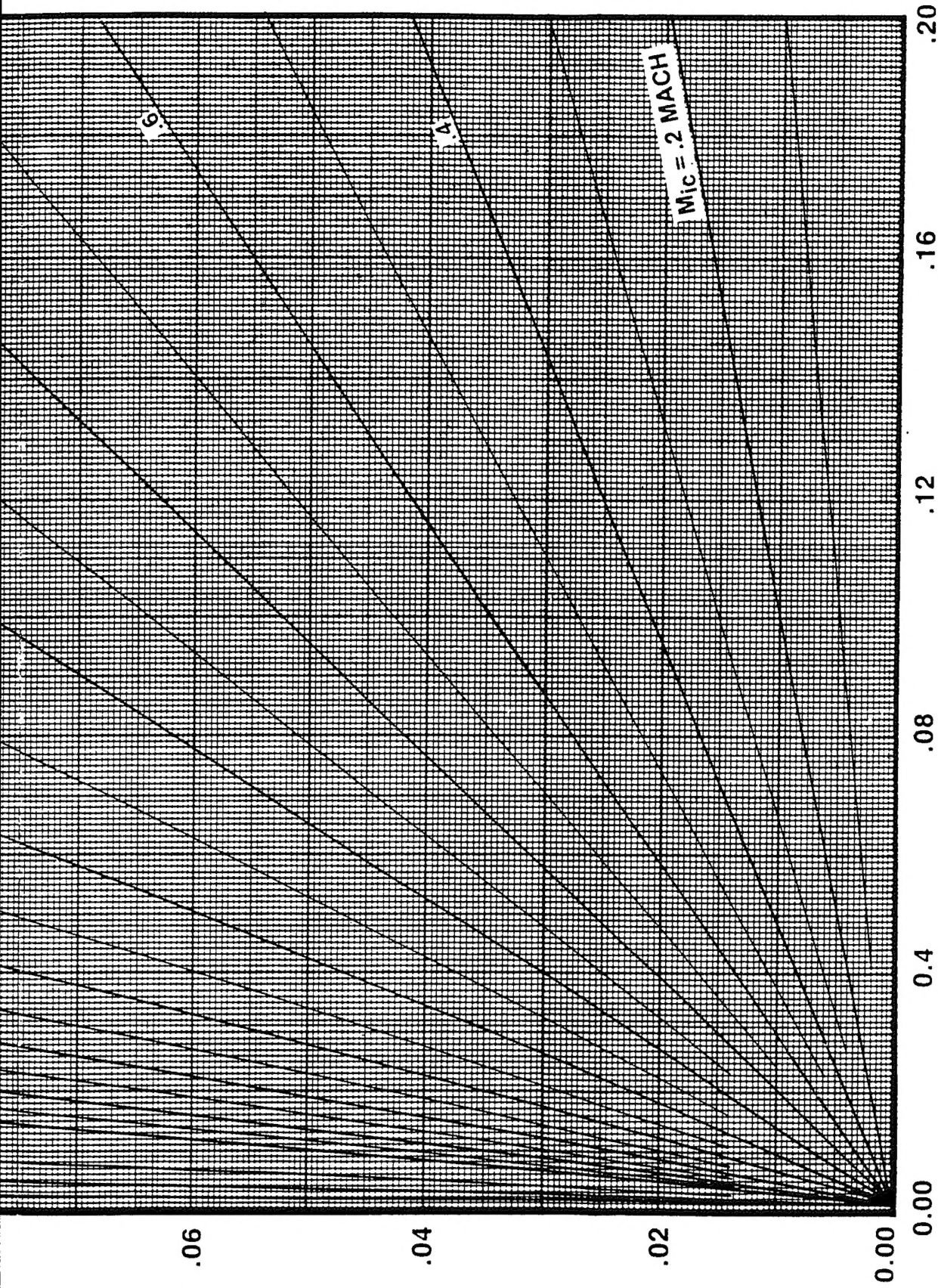
C-1-19

①



IACH NO.)

ΔM_{PC} (MACH)



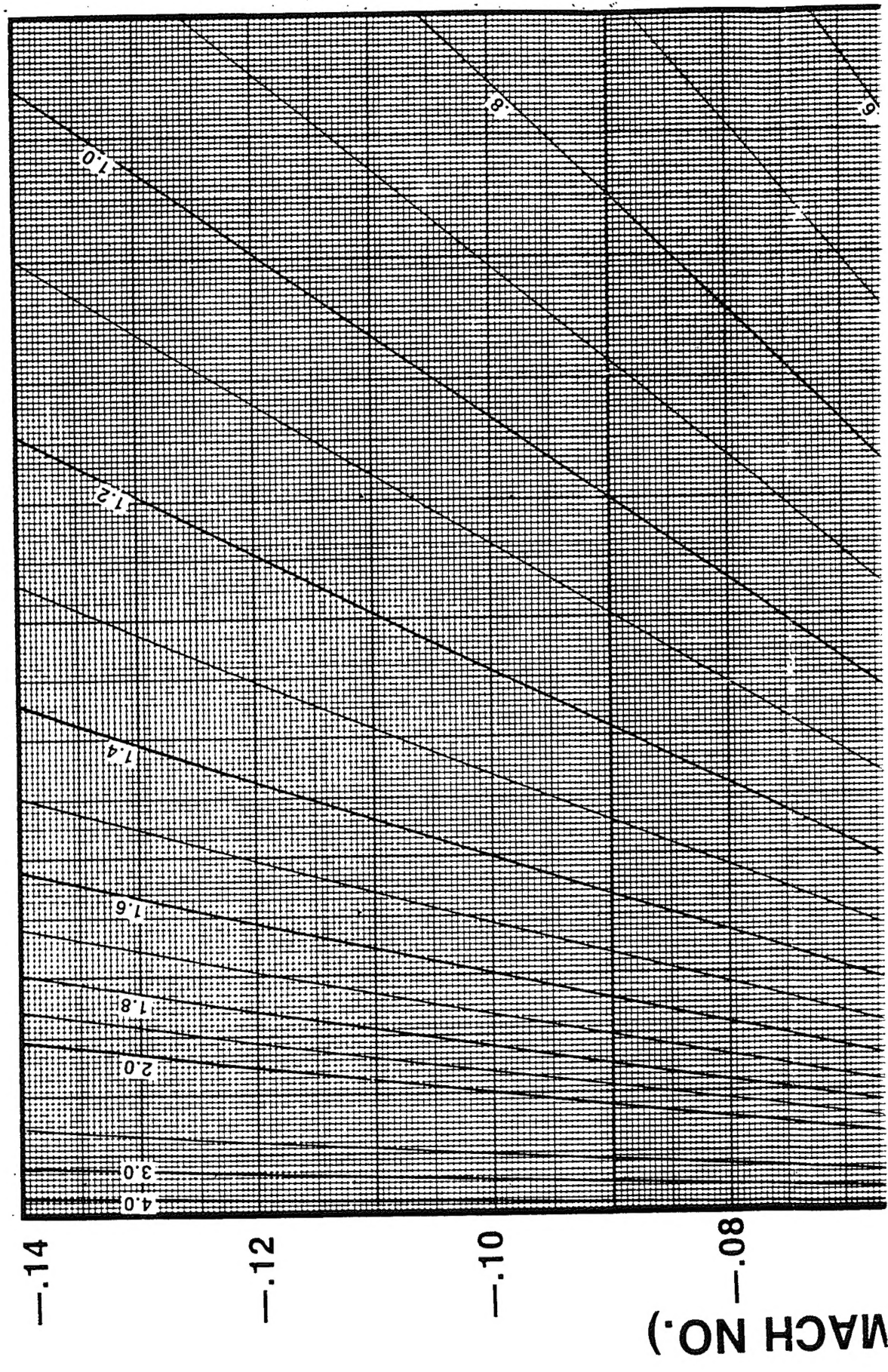
$\Delta P_p/Q_{CIC}$

ΔM_{PC} VS $\Delta P_p/q_{cic}$

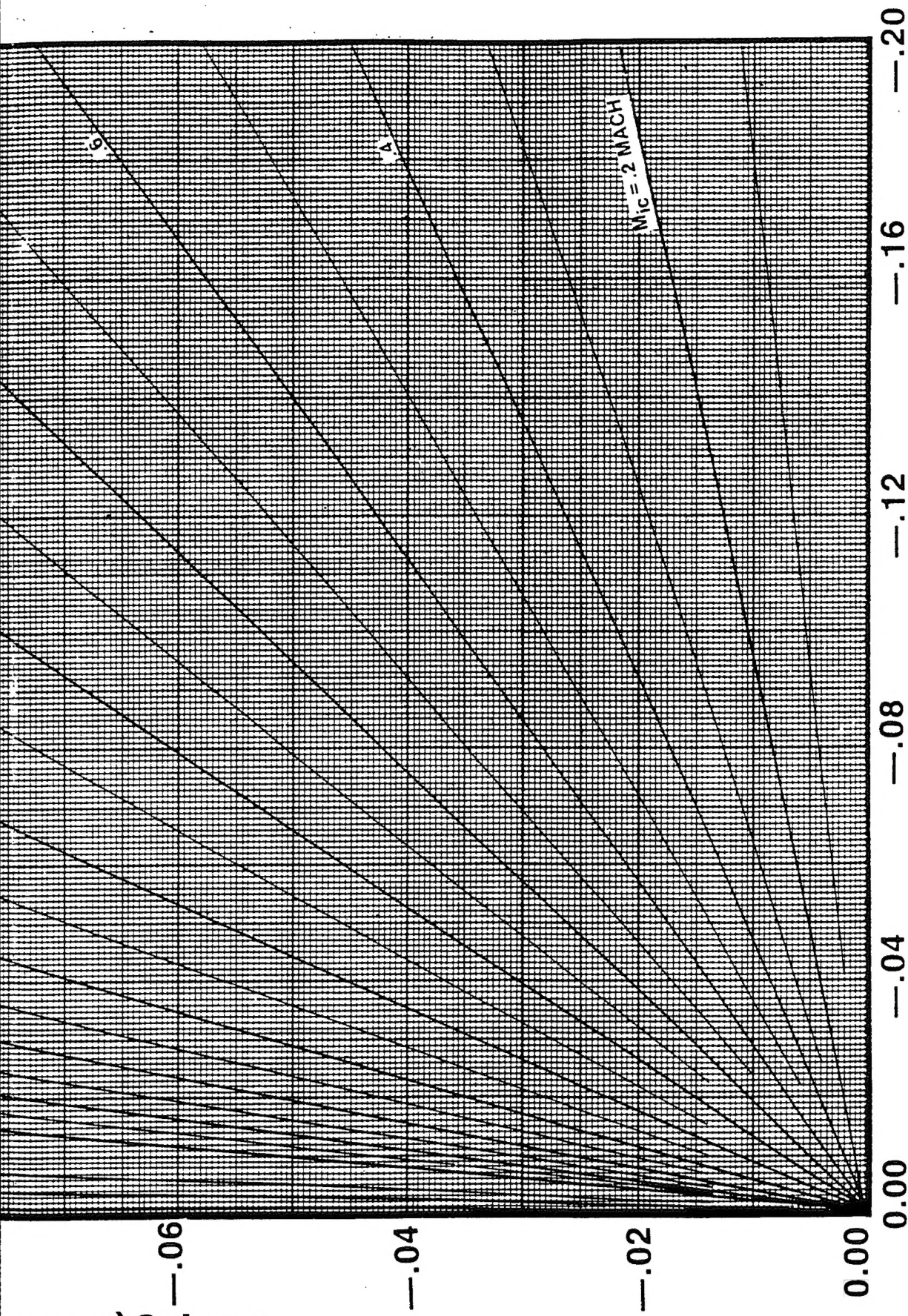
C-1-20

2

1



$\Delta M_{PC}(MACH)$



$\Delta PP/QCIC$

$-\Delta M_{PC}VS-\Delta PP/qcic$

C-1-21

(2)